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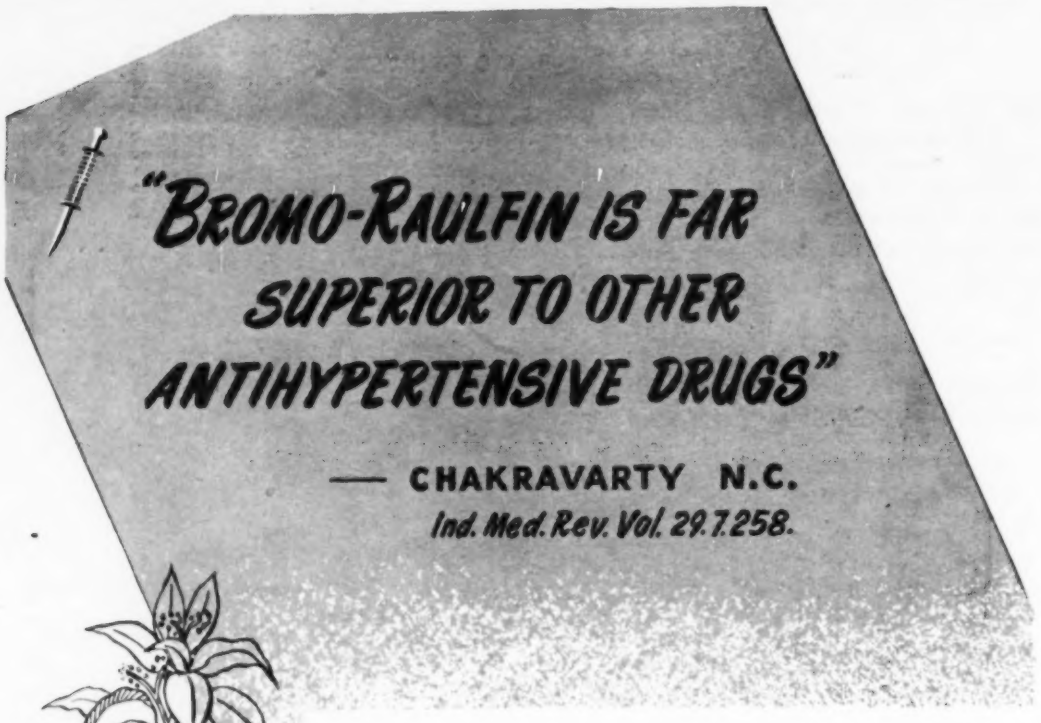

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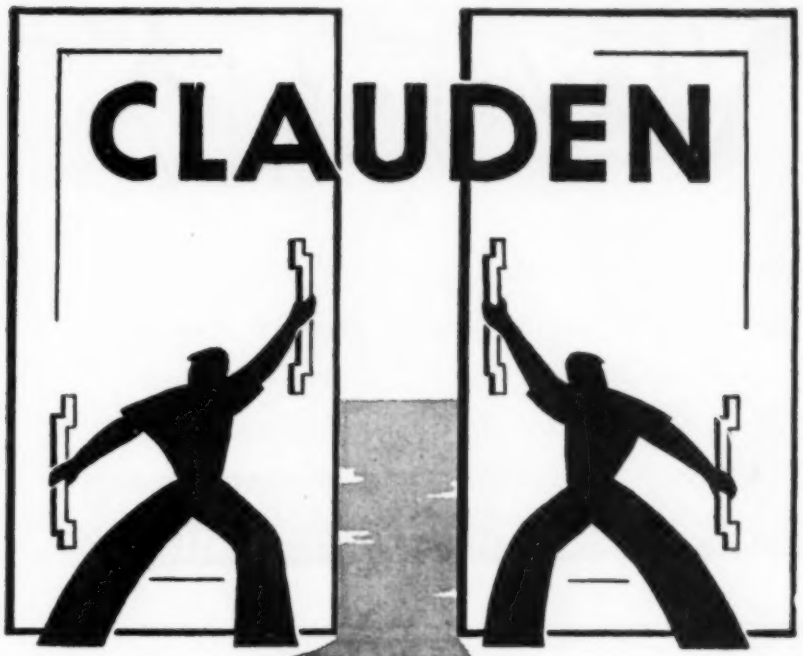

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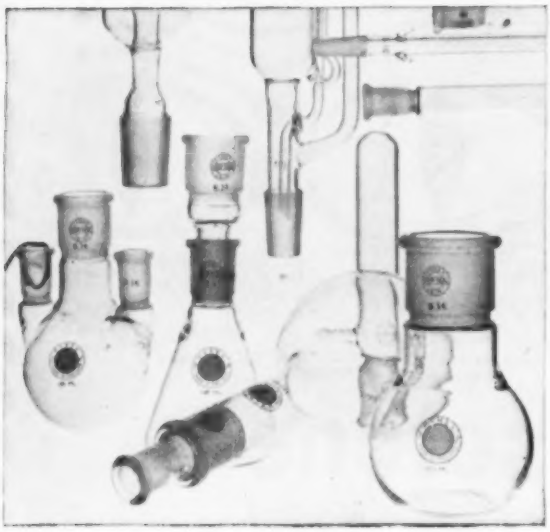

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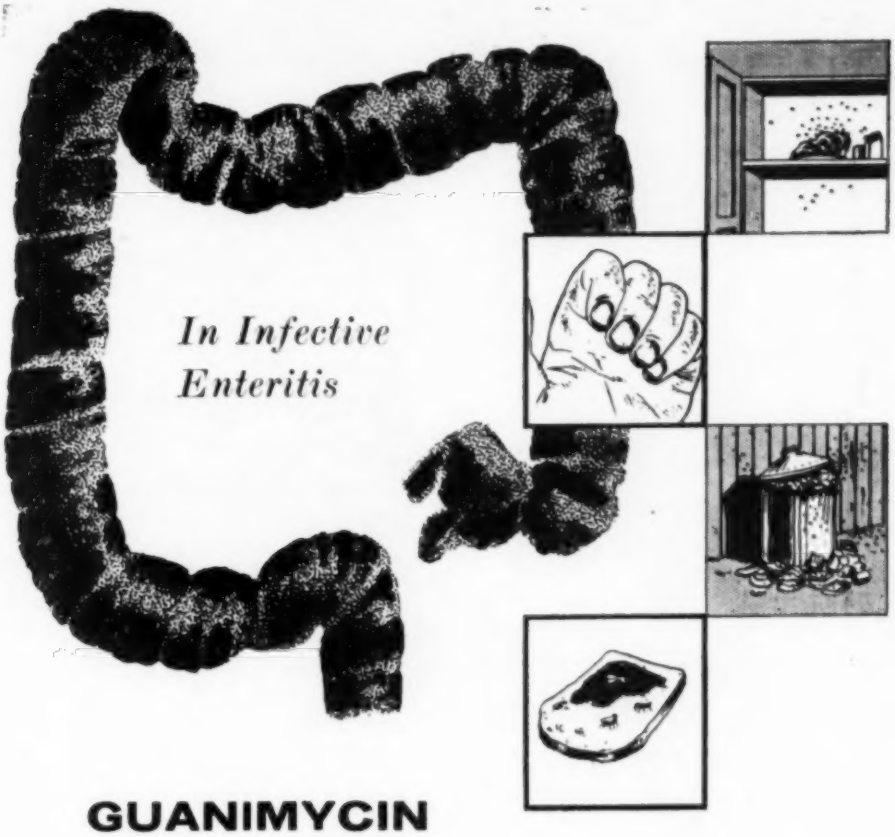

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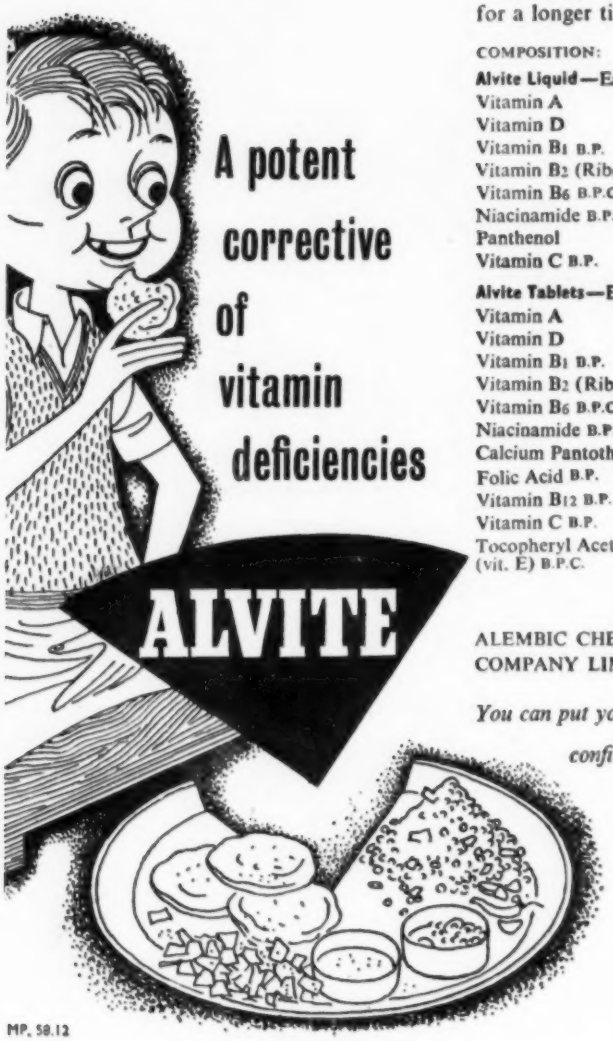

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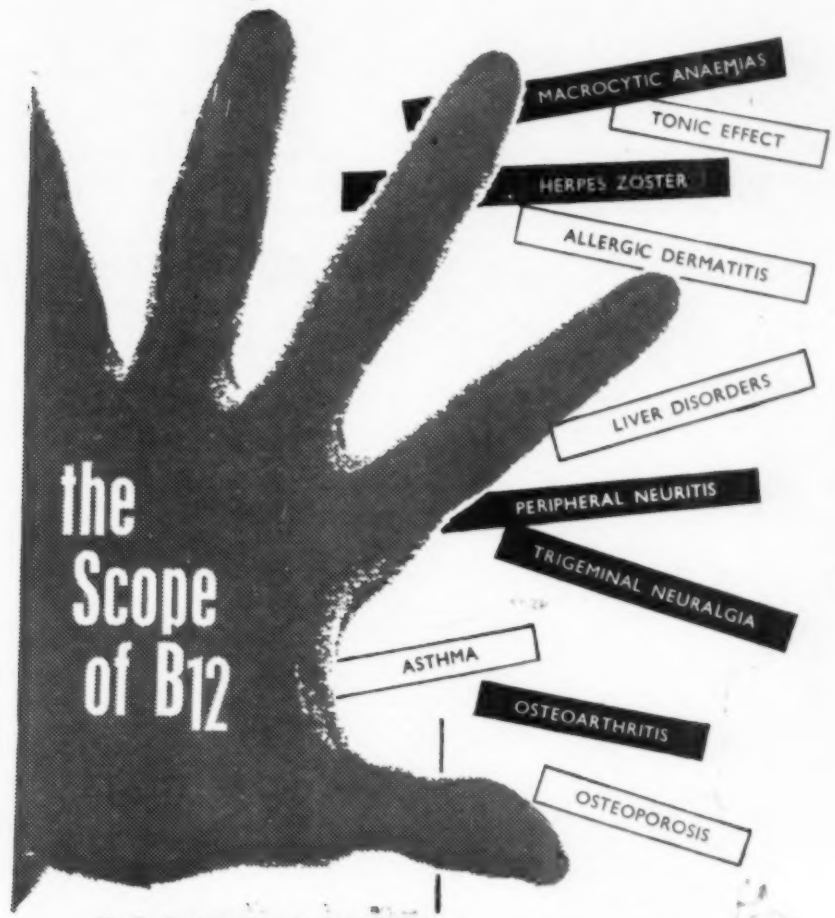

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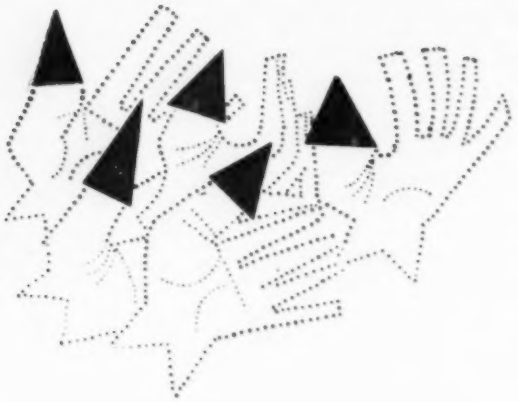

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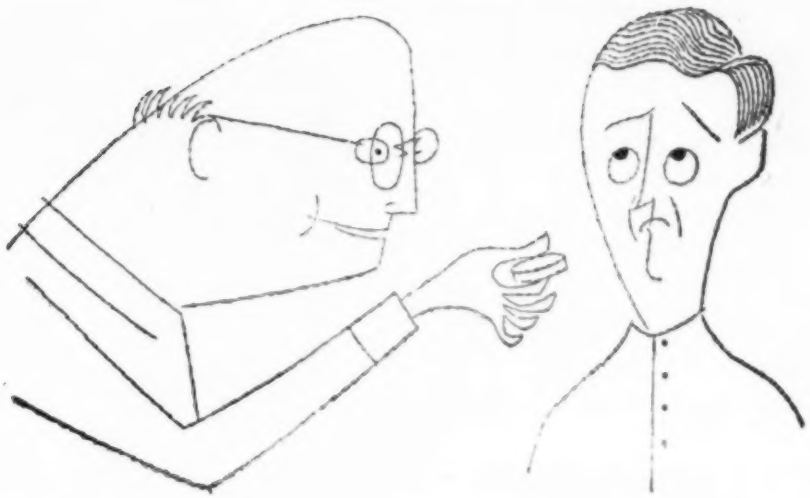

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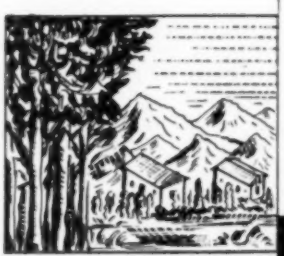

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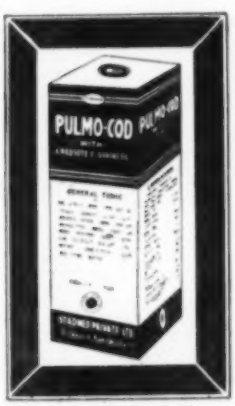

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ORIGINAL ARTICLES

OBSERVATIONS ON CHANGES OF PATTERN IN CHRONIC PYOGENIC OSTEOMYELITIS FOLLOWING INADEQUATE ADMINISTRATION OF PENICILLIN: THEIR SIMILARITY WITH OTHER BONE DISEASES

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The standard clinical picture of pyogenic osteomyelitis appears to have changed (Compere *et al*, 1943; Altemier and Helmsworth, 1945; McAdams, 1945; Agerholm and Trueta, 1946; Higgins *et al*, 1947) since the introduction of antibiotics particularly penicillin which is most commonly used. The severity of the clinical condition usually subsides after a few doses of penicillin with the result that the disease is often treated inadequately. This may lead either to incomplete resolution or to chronic inflammatory changes with atypical features. Several workers (Altemier and Reinecke, 1945; Brailsford, 1948; Gray *et al*, 1950; Meschan, 1957) have drawn attention to changes in the radiological lesions of pyogenic osteomyelitis after penicillin treatment. Instead of the typical appearance of involucrum and sequestra formation as seen in pyogenic osteomyelitis, the author has seen during recent years variable and grossly atypical patterns simulating various bone diseases such as Paget's fibrous dysplasia, Ewing's tumour, osteogenic sarcoma, osteoid-osteoma, infantile cortical hyperosteosis, diaphyseal aplasia (Engelman's disease) and Gaucher's metabolic disorder of bone. The resemblance was, of course, radiological and partly clinical. Follow-up studies and histopathology revealed the true nature of the disease.

It appears that these atypical features of osteomyelitis resulting from inadequate antibiotic therapy have not yet received sufficient recognition. It was, therefore, thought worthwhile to investigate these cases from clinical, radiological and histological aspects with a view to categorise the lesion as far as possible. This is a report of 7 cases of osteomyelitis simulating various lesions of bone excepting malignant bone tumours which have been reported separately (Bose, 1959). A report of a group of cases simulating fibrous dysplasia will form the subject matter of a later communication.

METHODS AND MATERIAL

Seven cases were selected from amongst those of pyogenic osteomyelitis that attended the Orthopaedic Department, Calcutta Medical College, in 1957 and 1958. These were the cases which presented some difficulty in the diagnosis on account of atypical features. Routine clinical examination was made and the history, especially of penicillin treatment, was noted. Skiagraphy and blood examinations were done. Histopathological examination by bone biopsy was conducted. Culture from biopsy material was done in some cases to isolate the organism.

CASE REPORTS

The analysis of the seven cases with radiological and histological findings is given in Table 1.

TABLE 1—SHOWING ANALYSIS OF THE SEVEN CASES UNDER REVIEW

Sl. No., Name, Age in years, Sex	Clinical history	Treatment : Penicillin in mega units	Skiagram (*vide* plate)	Biopsy (*vide* plate)	Remarks
1. B.K., 7, M.	Tender bony swelling middle third of left tibia—3 months	5	Fig. 1	Fig. 2	Simulated osteoid-osteoma clinically and radiologically
2. B.S., 30, M.	Bony swelling with bent upper third of left tibia—1 year	8	Fig. 3	Fig. 4	Simulated localised Paget's disease radiologically
3. N.B., 2, M.Ch.	Tender bony swelling middle half of right tibia with adherent discharging sinus—1 year	3	Fig 5	—	Simulated infantile cortical hyperosteosis radiologically
4. C.R., 4, F.Ch.	Tender bony swelling with discharging sinus over left tibia—1 year	2	Fig. 6	—	Simulated Engelman's disease radiologically
5. N.C., 14, M.	Bony swelling with healed sinus in lower end of right femur—4 years	8	Fig. 7	—	Simulated Gaucher's disease radiologically
6. M.D., 22, M.	Bony swelling upper end of left tibia with healed sinus —4 years	5	Fig. 8	Needle biopsy —blood : *Staph. aureus* on culture	Simulated fibocystic disease radiologically
7. B.D., 1½, M.Ch.	Huge swelling of left thigh —3 months	2	Fig. 9	—	Simulated haemangioma radiologically

N.B.—All the cases had a past history of fever, pain, and swelling with acute onset.

DISCUSSION

Atypical osteomyelitis cases resembling bone tumour have been reported (Bose, 1959). The features of osteomyelitis may be so atypical at times as to simulate bone tumours both clinically and radiologically. Histopathological examination is often inconclusive in these cases because of many fallacies of bone biopsy. It is only by clinical observation over a period of from 4 to 6 weeks that the final diagnosis can be arrived at. Arteriography is often helpful in these types of cases (Dos Santos, 1950). Many workers reported diagnostic difficulties between osteomyelitis and malignant tumour, especially Ewing's tumour (Bose and Banerjee, 1953). Fever is often present in malignant disease due to tissue destruction (Pickering, 1958). Swelling and fever in bone malignancy may mimic pyogenic osteomyelitis with incomplete resolution of the inflammatory process. Dewitte (1956) stressed on the difficulty in diagnosis between sarcoma and penicillin-modified osteomyelitis.

Atypical osteomyelitis resembling various bone diseases as found in this study has not been reported so far. Are the Paget's disease, infantile cortical hyperosteosis, osteoid-osteoma and fibrous dysplasia the atypical manifestation of osteomyelitis? Paget (1877) himself thought about chronic inflammation as the cause of osteitis deformans. Caffey and Silverman (1945) also ascribed unknown infection as the cause of cortical hyperosteosis. Osteoid-osteoma of baffling aetiology has been ascribed to inflammatory lesion by many though inflammatory cells are consistently absent (Davison, 1957). According to Jaffe and Lictenstein (1940) this is a benign tumour of bones. The present study suggested the possibility of inflammation in the pathogenesis of osteoid-osteoma and fibrous dysplasia.

Probable pathogenesis of atypical lesions—Acute pyogenic infection in bone causes necrosis and depending on the severity of infection, necrotic fragments may separate as sequestra. During natural healing process when the infection

is controlled, new bone formation takes place as involucrum with its cloaca for drainage of pus and sequestra. On this sequence of pathological changes, the clinical and radiological features of osteomyelitis depend. Penicillin or any other effective antibiotic nips in the bud these series of changes. Bone necrosis is minimal with little or no sequestrum and minimal new bone formation. According to Nash (1951) the final bone texture after adequate antibiotic therapy is normal and very rarely there is appreciable sclerosis while those cases resistant to penicillin show typical pattern and sequestra. By adequate antibiotic therapy he meant penicillin treatment for 6 weeks after subsidence of fever. He did not, however, mention the effect of inadequate and irregular treatment with antibiotics such as is sometimes meted out in this country.

Necrosis and new bone formation, characteristic features of pyogenic osteomyelitis, are proportionate to the virulence of the infecting organism, the resistance of the host and the adequacy of antibiotic administration. In some cases, due to inadequate administration of antibiotics in the acute stage, the virulence of organism being unchecked, necrosis becomes more marked as shown by rarefied areas in the skiagrams and is liable to be confused with various radiolucent bone diseases.

In certain cases again, new bone formation is more marked to grumbling infection from inadequate doses of antibiotics for irregular periods. They may simulate radio-opaque bone diseases.

The anatomical features of atypical osteomyelitis may also be explained from local vasculature and segmental blood supply of the long bones. According to Waschulewski (1956), in the mild type of osteomyelitis seen now-a-days infection is prone to localise in the diaphysis of the bone in the supply areas of the segmental arteries. They are branches from the main arterial stem to supply the periosteum and their ramifications form half rings around the shafts of bone and send further branches into the bone through Haversian canals. By reason of this anatomy, bone infection may manifest first as periostitis, secondly as osteoid-osteoma, a cortical form, and thirdly as intra-osseous abscess which may be confused with radiolucent bone diseases.

Summary

Observations on the changes of pattern in 7 cases of pyogenic osteomyelitis are reviewed to illustrate the atypical features most frequently met with.

Acknowledgments

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DIAPHRAGMATIC HERNIA

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Diaphragmatic hernia signifies any condition in which there is protrusion of one or more of the abdominal organs into the thoracic cavity either through an enlarged normal opening in the diaphragm or through an abnormal opening in the diaphragm. Normally the diaphragm forms a complete partition between the abdominal and thoracic cavities. Its upper surface is covered by the pleurae and the pericardium and its under surface by the peritoneum. Normally there are three openings in the diaphragm through which the oesophagus, aorta and inferior vena cava pass. These structures fit snugly in the openings and have reflections of the pleura and the peritoneum over them constituting tight seals. Sometimes there may be laxity or relaxation of these natural openings in the diaphragm with herniation of the abdominal contents into the thorax and this type of hernia mostly occurs through the oesophageal opening. Such a hernia is commonly known as oesophageal hiatus hernia or simply hiatus hernia. It is a true hernia as it has got a covering sac consisting of pleura or peritoneum or both.

Four types of hiatal hernia are recognised ; the sliding and fixed types and paraoesophageal and short oesophageal types. Sliding hiatal hernias are much the commonest and in this type the cardiac end of the stomach, with or without the oesophagogastric junction, slides upwards into the thorax through the enlarged and relaxed oesophageal hiatus. In the case of para-oesophageal hernias a portion of the fundus of the stomach herniates upwards into the thoracic cavity alongside the normally placed oesophagus. The short oesophagus hernias are nonreducible because the oesophagogastric junction is drawn upwards into the thorax.

Sometimes there is direct communication between the abdominal and thoracic cavities due to congenital defects. Developmentally the diaphragm is derived from three elements. The anteromedial portion arises from the septum transversum, the posterolateral portions arise independently from the pleuroperitoneal membranes and the lumbar portion from the dorsal mesogastrium. At about the eighth week of foetal life these component parts fuse to form the diaphragm. Sometimes the component parts of the diaphragm fail to fuse or the pleuroperitoneal canal may persist. The result will be complete or partial absence of a diaphragmatic leaf which will allow free passage of multiple abdominal viscera into the thoracic cavity. These are really false hernias as they have no covering sac. These congenital diaphragmatic defects occur about six times more often on the left than on the right and permit the abdominal organs such as the stomach and parts of the intestine and occasionally the spleen, pancreas and the left kidney as well as a portion of the liver to enter into the pleural sac. Again the liver is so placed on the right side as to serve as protection against the diaphragm. So congenital diaphragmatic hernia on the right side is a rare condition. Brunn (1931) reported a family of ten children in which everyone of the eight living members revealed some degree of oesophageal hernia of the stomach.

Besides the congenital and acquired types of hernia described above, hernias may occur due to rupture of the diaphragm at any point due to trauma. The left diaphragm is more frequently injured than the right because the right has the protection of the liver. These traumatic hernias may occur in automobile accidents as a result of crushing injuries to the abdomen and the chest.

It should be understood that the great difference of pressure between the abdominal and thoracic cavities is the dynamic factor without which hernia would not take place. If the intrathoracic and introabdominal pressure were the same, the thoracic organs would herniate through a deficiency in the diaphragm into abdomen due to gravity but this never occurs because intraabdominal pressure is higher than the intrathoracic pressure which is subatmospheric.

INCIDENCE

There is disagreement as to the incidence of diaphragmatic hernia. However, its incidence is likely to be higher than what is realised. If routine x-ray examination were made with barium-filled stomach, in the Trendelenburg position, many more cases would have been brought to light. Small hernias at the oesophageal hiatus are particularly frequent and the condition is often symptomless. Jones (1941) discovered fifty cases of diaphragmatic hernia in his private practice. MacMillan (1920) discovered three cases of diaphragmatic hernia in 15,000 x-ray examinations. Pan Coast and Bowles (1926) found sixteen cases among 9,000 gastro-intestinal examinations. Dickson (1933) reported 206 instances discovered in the radiology department of the Toronto General Hospital over a period of fourteen years. Harington (1940) has shown a high incidence of diaphragmatic hernias in the statistics from the

Mayo Clinic. Most authors agree that by far the commonest hernia occurs through the oesophageal hiatus and again oesophageal hiatus hernia is seen much more frequently in older than in younger people. Acquired hernias occur twice as often as the congenital variety and both types of hernia occur most often in males.

The clinical symptoms of diaphragmatic hernia differ in various types. Severe forms of congenital hernia, with massive entry of abdominal contents into the chest, are incompatible with life and in fact, the child may be stillborn. In less severe cases, the main symptoms of congenital diaphragmatic hernia are paroxysmal dyspnoea, cyanosis, colicky pain, attacks of vomiting and sometimes abdominal distension due to intestinal obstruction. The infants are generally weak and anaemic. The symptoms of hiatus hernia, which is the most common form of acquired hernia, are referable chiefly to the gastro-intestinal and circulatory systems. The usual symptom in these cases is burning pain after food and particularly on lying down. According to Guthrie and Jones (1940) herniation of a small portion of the stomach may produce more symptoms than large hernias. The pain is usually substernal. Sometimes there may be only discomfort after meals. Other symptoms include hiccup, haematemesis and vague upper abdominal complaints. Erroneous diagnosis prior to operation include in order of frequency, cholecystitis, cholelithiasis, peptic ulcer, hyperacidity, cardiac disease, appendicitis and intestinal obstruction. Jones (*loc. cit.*) has drawn attention to the fact that some cases of hiatus hernia in older age groups closely simulate coronary disease. It should be borne in mind that some hernias are symptom-free.

In small hernias there may be no abnormal physical signs whatsoever over the chest. In moderate and massive hernias the expansion of the chest is markedly diminished on the involved side. Vocal fremitus is also diminished and the apex beat may be displaced to the opposite side. The percussion note depends on the abdominal organ herniated into the thorax. If the spleen is in the thorax, a flat note is elicited. If the stomach and intestines are there, tympany may be elicited over the lower chest. On auscultation breath sounds are absent owing to collapse and compression of the long and gurgling sounds, commonly heard over the abdomen, may now be elicited high over the chest. On inspection there is usually no asymmetry over the chest but if a large volume of abdominal contents have entered the chest—the abdomen appears flat. The physical examination, however, is in most cases of little help in diagnosis as the hernias are mostly on the left side, and hyper-resonance over the lower part of the chest is readily ascribed to distended stomach or colon.

It is due to roentgenology that more and more cases of diaphragmatic hernia are being discovered and reported. Without this aid definite diagnosis of this condition is not possible. Besides diagnosis, radiology furnishes data necessary for the surgical treatment. Usually x-ray inspection following the ingestion of barium reveals evidence of parts of the gastro-intestinal tract in the thorax.

As the diaphragmatic hernia is a mechnical abnormality due to an anatomical defect, it requires repair by surgery. Congenital diaphragmatic hernias in children almost always require surgical intervention. It has been observed that infants in the first forty-eight hours of life stand operations extremely well, in fact better than at the end of a week or ten days. In the diaphragmatic hernia of adults, if the symptoms are obstructive in nature, operation is indicated. If, however, symptoms are mainly dyspeptic in nature, then it will be wise to adopt medical measures for many of the patients are old and obese. Failure to obtain relief by symptomatic treatment should lead to the consideration of a phrenic crush. This has the effect of rendering lax the hernial orifice and should, therefore, abolish, or at least diminish, all those symptoms which may be due to congestion produced by tightness at the hernial orifice. The operation is very simple to perform and is frequently followed by relief. The group of cases where the hernia is small and symptomless and perhaps discovered accidentally require no treatment.

Two illustrative cases are reported.

Case Reports

Case 1—S.N.S.R., aged 30 years, businessman, had pneumonia on the right side at the age of 7 months. At the age of nine years he had pain on the right chest with fever and was treated for pleurisy but no aspiration was done.

The present illness started from July, 1954 when he had a sudden onset of severe cough with mucopurulent expectoration, low grade fever and breathing difficulties. He was treated with penicillin injections and his symptoms gradually subsided and he kept fairly well till June, 1955 when he had a relapse of the symptoms. This time a skiagram of the chest was taken (Fig. 1, *vide* Plate). A dense homogenous opacity was seen occupying almost the whole of the right hemithorax except the uppermost region. The appearance was very suggestive of pleurisy with effusion and as advised by a phthisiologist the patient had INH and PAS for 3 months with

relief of symptoms. An aspiration was advised but fortunately it was not done.

In December, 1956 he had again cough with breathing difficulties but had no fever this time. He was treated with antituberculous drugs and his symptoms abated. In June, 1957 he had again some cough with breathing difficulties. In the meantime he had several skiagrams of his chest and all of them showed almost the same original condition. Planigraphy of the right lung showed several rarefied areas simulating cavities (Fig. 2, *vide* Plate). Later on, on careful study of the skiagram a few variable lighter shadows were observed in the upper part of the dense opacity and it was decided to exclude diaphragmatic hernia by barium meal x-rays. The suspicion was confirmed by taking skiagrams at varying intervals after barium swallow. It was demonstrated that the hernia contained stomach, duodenum and portions of small and large intestines (Fig. 3, *vide* Plate). On careful physical examination after radiological diagnosis, it was found that the abdomen was much smaller than normal, there was tympanitic note and gurgling sound over the lower part of right chest particularly in front and on the side.

Case 2—K., male child, aged one and a half years, had developed one month after birth (after normal delivery) slight breathing difficulties which gradually increased. After about 6 weeks the child started to get occasional vomiting. The general health of the child was fairly good without anaemia. A skiagram of the chest was taken (Fig. 4, *vide* Plate) which suggested infiltration with cavities in the left lung with moderate pleural effusion and gross displacement of the mediastinum to the right. He had antituberculous drugs for about a year without any effect on breathing difficulties or the occasional vomiting. The radiological appearance also remained the same. In September, 1957 on close study of the skiagrams of his chest and careful physical examination diaphragmatic hernia was suspected. There was some retraction of the lower part of the left chest, the abdomen was smaller than normal and breath-sounds were practically absent except in the upper part posteriorly where very faint sounds were audible. Gurgling sounds resembling rales as heard on the abdomen, were detected on the left chest. The diagnosis was confirmed by barium-x-rays and it was found that the hernia contained both small and large intestines (Figs. 5 and 6, *vide* Plate). The father of the child did not agree to the operation.

Discussion

Of the two cases reported, the second one was definitely a case of massive congenital hernia. Barium x-ray showed that in the first case, the hernia contained a part of the stomach, duodenum and small and large intestines whereas in the second case the hernia consisted of small and large intestines. It is quite likely that the left-sided hernia also contained other abdominal organs like kidney, spleen etc.

The first case is more interesting. It is a case of right-sided diaphragmatic hernia which is a very rare condition. This case simulates almost exactly pleurisy with effusion. Though the present age of the patient is 30 years, his occasional chest symptoms date back to the age of seven months. So in all probability this is also a case of congenital hernia which, like hernias in other parts of the body, has gradually increased and has now acquired a massive size. Besides, the symptoms of acquired hernias are mostly non-respiratory but in this particular case the most important symptom is a respiratory one, namely, breathing difficulties. Of course, the nature of hernia can only be definitely known on the operation table—if it is a congenital hernia, it will have no peritoneal or pleural sac.

Summary

A general review of incidence, aetiology, clinical features and treatment of diaphragmatic hernia has been made.

Two cases of massive diaphragmatic hernia have been reported—one in a male child aged 1½ years and the other in a male aged 30 years, the former was a left-sided one which is common and the other was a right-sided one which is very rare.

In both the cases the predominant symptom was dyspnoea.

Both the cases had clinical and radiological features of pleurisy with effusion along with parenchymal lesions in the lungs—and both of them had prolonged antituberculous drug therapy—before the diagnosis of diaphragmatic hernia could be arrived at.

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Fig. 1— X-ray print showing appearances like osteoid-osteoma. (Case 1)

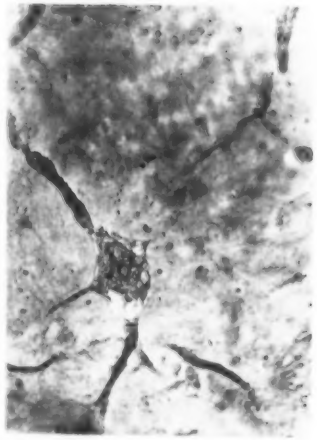

Fig. 2—Photomicrograph showing a peculiar structure of bone with dilated Haversian canals and thrombosis in some of them. (Case 1)

Fig. 3—X-ray print showing features like those of early localised Paget's disease. (Case 2)

Fig. 4– Photomicrograph showing a pattern unlike Paget's disease; clumps of inflammatory cells present. (Case 2)

Fig. 5– X-ray print showing features like those of infantile cortical hyperosteosis. (Case 3)

Fig. 6 – X-ray print showing widening and sclerosis of tibial shaft simulating Engelman's disease. (Case 4)

Fig. 7—X-ray print showing flask-like distended lower end of the femur, as seen in Gaucher's disease. (Case 5)

Fig. 8—X-ray print showing features of fibrocystic disease of bone. (Case 6)

Fig. 9—X-ray print showing pathological fracture and involvement of diaphysis liable to be mistaken with haemangioma. (Case 7)

Fig. 1—Skiagram of chest (15-7-55) shows homogenous opacity occupying almost the whole of the right hemithorax except the uppermost region.

Fig. 2—Skiagram of chest (June, 1957). One of the tomograms showing multiple rarefied areas simulating cavities in the lung parenchyma.

Fig. 3—Right lateral skiagram of chest (13-6-57) 7 hours after barium swallow shows parts of small and large gut in the thorax.

Fig. 4—Skiagram (10-9-57) taken after a course of anti-tuberculous treatment. Variable rarefied areas even extending to the right side are seen in the upper part of the dense shadow.

Fig. 5—Skiagram (12-9-57) taken 3 hours after barium swallow shows barium-filled coils of small intestine in the left thorax.

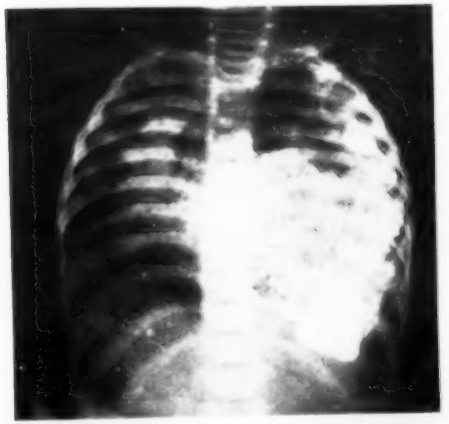

Fig. 6—Skiagram (12-9-57) taken 6 hours after barium swallow shows coils of barium-filled large gut in the thorax.

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BEHAVIOUR OF VARIOLA AND VACCINIA VIRUSES IN MICE

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It is a well-known fact that pathogenicity of different viruses for different hosts varies greatly. Vaccinia is one of the few viruses that have wide range of pathogenicity. Variola virus is less easily transmissible in animals than vaccinia. Of all laboratory animals tried, monkey has been found to be most susceptible to variola and rabbit to vaccinia. Mice do not seem to have been extensively used as an experimental animal for testing variola and vaccinia viruses. The little work that has been done with this animal was either production of vescicopustular reaction by cutaneous inoculation in foot pad or tail (Rosenau and Andervont, 1931) or pulmonary consolidation by instillation into the nose of anaesthetised animals (Nelson, 1938).

While studying some of the techniques applicable for characterisation of pox viruses (which form the subject matter of a separate publication), mouse inoculation was done as one of the routines of technique of study. But because cutaneous inoculation is one of the accepted methods of testing these viruses, intraperitoneal and intracerebral injection in mice—the two techniques commonly employed in virological study, have been tried during the present work. The strain of variola virus was isolated from the material of a case in Infectious Disease Hospital at Beliaghata (Calcutta), and the vaccinia strain was isolated from vaccine lymph manufactured locally.

Methods and Materials

The variola and vaccinia strains were isolated by inoculating material from the smallpox lesion and vaccine lymph respectively on the chorioallantois of embryonated eggs by the standard technique. Virus suspension was prepared by grinding the portion of the membrane showing lesion, in pestle and mortar with sand and subsequent centrifugalisation. As the strains were passed serially in eggs, the variola and vaccinia suspensions were labelled as VRE_1, VRE_2, VRE_3, . . . or VCE_1, VCE_2, VCE_3 . . . . and so on, E_1, E_2 etc. denoting the number of egg passages of the strains.

Swiss mice, pure colony of which is maintained in the laboratory were used in this work. For intraperitoneal inoculation both adult mice (more than eight weeks old) and infant mice (three days old) were used, volume of inoculum being 0·1 ml. for adult and 0·05 ml. for infant. Some of the adult mice that survived were sacrificed 10-20 days after injection and the peritoneal cavity was washed with 2 c.c. of antibiotic solution. The washing was tested in eggs for presence of viable virus.

For intracerebral inoculation, only infant mice were used and the volume of inoculum was 0·015 ml. For making virus suspension for the next passage the brain of the ill mouse was removed aseptically after ether anaesthesia, ground in pestle and mortar with about 1-2 ml. of antibiotic solution and centrifugalised. Materials of serial passages were labelled as VRM_1, VRM_2, VRM_3 . . . . or VCM_1, VCM_2, VCM_3 . . . . etc., M_1, M_2 . . . . denoting the number of mouse passages. Bacterial contamination was checked at every stage of the work by culturing the material in nutrient broth flask and blood agar plate. Viability of the virus was tested on chorioallantois of embryonated eggs. The mice that survived were sacrificed at different intervals and the brain emulsion was put on chorioallantois to find out if the virus was still viable in the brain tissues.

Results

INTRAPERITONEAL INOCULATION :

Adult mice were unaffected when they were infected intraperitoneally with variola and vaccinia viruses. Washings of the peritoneal cavity 10-20 days after injection did not reveal any viable virus.

Infant mice were killed in 3-4 days' time by the vaccinia virus and there was collection of greenish yellow fluid in the peritoneal cavity. When infected with variola the animals were ill in 2-3 days with abdomen distended with clear fluid and they died in 3-12 days. Those that died late had pus in the peritoneal cavity. The result is shown in Table 1.

INTRACEREBRAL INOCULATION :

In general, vaccinia virus during its serial passages killed mice consistently in 5-9 days. With variola virus, although mice died in 6-10 days in early passages, most of them survived in later passages, but the brain of the surviving healthy mice revealed viable virus even as late as 62 days after injection. The results of inocula-

tion with variola virus of the 4th egg passage and vaccinia virus of the 1st egg passage are shown in the Table 2.

TABLE 1—SHOWING RESULT OF INTRAPERITONEAL INOCULATION IN MICE

Mice	No. of mice	Virus suspension used	Result	Remarks
Adult	12	VRE_4	No death or illness	Peritoneal washings 10-20 days after injection did not reveal any viable virus
	12	VCE_1	No death or illness	
Infant	12	VRE_4	Ill in 2-3 days. Died in 3-13 days. All with distended abdomen	Peritoneal fluid clear in the early stage, purulent in the late stage. Showed living virus
	12	VCE_1	All died in 3-4 days with distended abdomen	Clear peritoneal fluid. Showed living virus

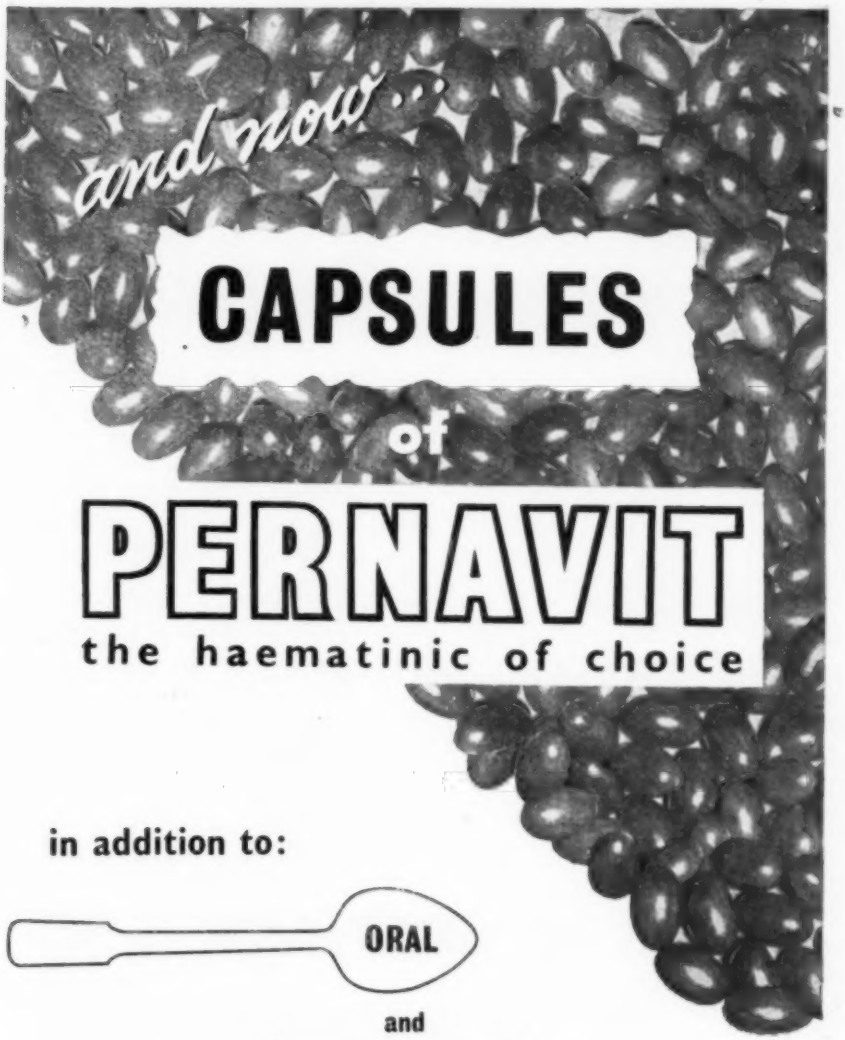
TABLE 2—SHOWING RESULTS OF INTRACEREBRAL INOCULATION IN INFANT MICE

Mouse passage	No. of mice	VRE_4	VCE_1
1st passage	6	All died within 6 days	All died within 4 days
2nd ,,	6	4 died within 5 days. 2 killed 20 days after showed viable virus in brain	All died within 5 days
3rd ,,	6	No death. Mice killed in 7-36 days. All showed viable virus in brain	All died within 4 days
4th ,,	6	No death. Mice killed in 6-62 days. All showed viable virus in brain	All died within 5 days
5th ,,	6	5 died in 8-30 days. 1 killed on 32nd day showed viable virus in brain	All died within 4 days
6th ,,	6	All died in 6-28 days	All died within 6 days
7th ,,	6	—	All died within 5 days
8th ,,	6	—	All died within 5 days

DISCUSSION

Mouse as an experimental animal has been extensively used in virology. With many animal species, susceptibility to infection by a particular virus depends on the age of the animal ; fowl may be cited as a glaring example, as its embryo inside the egg is susceptible to many viruses, but the adult is resistant to most of them. Infant mouse and not the adult, is susceptible to a number of viruses like Coxsackie virus. By intraperitoneal route adult mice have been found resistant to variola and vaccinia, but the infant mice have been found to be extremely sensitive to those viruses, susceptibility to vaccinia being much more than that to variola.

By intracerebral route vaccinia virus has been found consistently more lethal to infant mice than variola. During serial passage in brain of infant mice, there was no escape from the lethal effect when vaccinia virus was used, but the picture became different when variola was used. With the latter, during 3rd and 4th serial passages there was no death at all, although mice died subsequently during the 5th and 6th passages. The vaccinia strain used was freshly isolated, but the variola was fourth egg passage strain, and this difference might have some bearing on the difference in the degree of virulence to mice between the two viruses. But there was another interesting and significant observation. When the animals that survived after variola infection and apparently looked normal in all respects, were sacrificed and the brain emulsion was inoculated in embryonated eggs, viable virus could always be demonstrated. In this way, living virus has been shown to be present in brain of healthy mice upto 62 days after injection of variola, although concentration of viable virus in brain seemed to diminish as the survival period of mice after inoculation increased. In the available literature, the authors have not come across reference to any work showing viable virus lying dormant in the brain 62 days after intracerebral inoculation in mice, although viruses have been recovered from other tissues after infecting immunised animals. Olitsky and Long (1929) isolated vaccinia virus from the tissues of immune rabbits 114 days after inoculation, Olitsky and Casals (1945) isolated the same eight months after, and Bedson (1938) recovered Psittacosis virus from mice seven months after they have survived a test of immunity ; but in all these cases, animals were previously immunised and viruses were recovered from organs other than brain.



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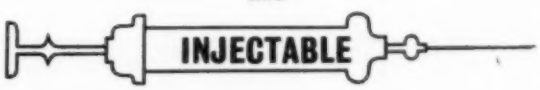

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Conclusions

Variola and vaccinia viruses can cause fatal infection in infant mice when injected intraperitoneally, but vaccinia is more pachogenic than variola in this respect. Adult mice are unaffected by intraperitoneal injection of variola and vaccinia.

By intracerebral inoculation in infant mice vaccinia virus can be serially passaged without increase or decrease of virulence, the mice dying within 4-5 days. With variola virus although similar death occurs in the early passages, with subsequent passages, high percentage of mice survives, and from the brain of surviving apparently healthy mice, viable variola virus could be isolated even 62 days after injection.

Acknowledgments

We thank Dr. A. Mandal of Infectious Disease Hospital, Calcutta, and Prof. M. N. Lahiri of All-India Institute of Hygiene & Public Health for making the smallpox case and vaccine lymph available to us for isolation of variola and vaccinia strains. We are grateful to our Director, Professor R. N. Chaudhuri, for giving us all facilities to carry on our work.

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PRACTITIONERS' SERIES

TUBERCULOUS MENINGITIS*

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Tuberculosis is fast becoming No. 1 killer in our country. Tuberculous meningitis is one form of tuberculosis which is baffling in its diagnosis and presents innumerable problems in treatment. It is common experience that many of these cases are misdiagnosed or diagnosed at a late stage and, therefore, reach hospital late. Even when diagnosed, practitioners are still apt to be pessimistic about the ultimate outcome. Many consider it to be as good as a death warrant as they have not seen a single case survive or even if one survives, the patient is left a cripple with various palsies or deafness, blindness or mental defect. With modern methods of treatment, there is no reason for this attitude. Each case, however, requires prolonged and active treatment. It is likely too that the incidence is increasing.

* Based on a lecture delivered at the Asansol Branch, I.M.A., July 1958.

Pathogenesis

Tuberculous meningitis is generally secondary to tuberculosis elsewhere in the body. Unlike other meningites, it is not necessarily preceded by bacteraemia. Invasion of the leptomeninges generally occurs from rupture of an adjacent caseous focus generally in the cortex of the brain and sometimes in the meninges themselves. These pre-existing caseous foci are derived from haematogenous spread from a breaking-down tuberculous primary complex in the lungs, cervical adenitis or bone and joint tuberculosis in children and from pulmonary or extra-pulmonary tuberculosis in adults. It should not, however, be inferred that meningeal infection direct from the blood stream never occurs. Every second case of miliary tuberculosis is said to develop meningitis.

Tuberculous meningitis rarely occurs below six months of age but children upto 3 years are said to be specially susceptible and it may occur at any age subsequently.

In infants and young children no tuberculous history may be available but sometimes there may be evidence of contact with an open case. Acute specific fevers like measles may act as exciting factors.

Symptomatology

Tuberculous meningitis is characteristically insidious in its onset unlike other meningites. For descriptive purposes the course of the disease is conveniently divided into four stages:

Prodromal stage of malaise which may last a few days to a few weeks. The patient is irritable, unaware of his surroundings, refuses food and loses weight. Headache, vomiting and slight fever are usually present. No neurological signs are present at this stage.

Second stage of meningeal irritation—Fever, headache and vomiting become more pronounced. Fever may range from 102°-104°F. Children may have convulsions. There is stiffness of the neck, positive Kernig's sign, plantar reflex may be extensor and abdominals lost. Jerks may be exaggerated and ankle and patellar clonus can be elicited. Pulse is at first quick, afterwards slow and irregular. Ocular signs such as photophobia, contracted pupil and squint may be present.

Third stage of cerebral compression (due to increased intracranial pressure))—The patient is drowsy, yet irritable. Children usually lie on their sides with knees and elbows flexed. There may be ptosis, strabismus, facial and cranial nerve palsies. VI nerve is most vulnerable to the effects of raised intracranial pressure and external rectus palsy is, therefore, common. III and VII nerves may also be affected. The pupils are contracted. The abdomen is retracted, constipation is the rule and retention of urine may occur. Spastic extensor rigidity of the limbs with log-like stiffness of the whole body (decerebrate rigidity) is sometimes seen. Fundus examination may reveal papilloedema and choroid tubercles.

Fourth stage of paralysis—Drowsiness gradually deepens into stupor and coma. The pupils have become either fixed or unequal. Convulsions or spasm or twitching of muscles may be present. Breathing becomes irregular (Biot's type) with pauses of apnoea. Ultimately, paralysis of muscles supervenes together with incontinence of urine and faeces and fatal termination follows within 1-4 weeks, if untreated.

Diagnosis

Early diagnosis is extremely important in this disease not only for recovery but also for complete restitution to normality. A diagnosis has to be made before irreversible damage to the brain has occurred. Diagnosis is relatively easy in the later stages when the clinical features already outlined have appeared. It is not so easy in the prodromal stage. Specially in children, the disease may be confused with pyrexial illnesses, gastro-enteritis, pneumonia and enteric fever. Since meningism may occur in any febrile illness in children, headache, vomiting and neck stiffness are less precise diagnostic signs in their case. Constipation rather than diarrhoea is the rule in tuberculous meningitis unlike gastro-enteritis. In acute specific fevers, enteric and respiratory infection, temperature is higher. Acute purulent meningitis is more sudden in onset and the C.S.F. is frankly turbid. Roundworm infestation may mimic this condition and may only be ruled out by the characteristic C.S.F. changes. In adults, when no definite neurological signs are present, the possibility of tuberculous meningitis should be remembered in every case of fever of obscure origin and specially if the patient is drowsy or comatose.

An awareness of the disease in the mind of the physician is the first step in diagnosis. If there is tuberculosis in the house or if the patient is known to be tuberculous, the suspicion is further strengthened.

LABORATORY INVESTIGATIONS :

Investigations for confirmation of the diagnosis are :

Mantoux test—This is said to be positive in 85 per cent of cases of tuberculous meningitis. But an increasing proportion of normal children are also tuberculin positive. This test is not considered by the author to be of much value in diagnosis except in infants.

X-ray of chest—It should be done whenever the patient's condition permits. The discovery of a pulmonary focus is a pointer to the tuberculous nature of the meningitis.

Ophthalmoscopic examination and demonstration of choroid tubercles—If found they indicate haematogenous dissemination of tuberculosis and give indirect evidence of tuberculous meningitis. In the Western literature, the finding has been reported in up to 74 per cent of cases but Indian observers appear neglectful of this finding. The highest reported incidence is 29 per cent only. It requires diligent and repeated search of the optic fundus after proper dilatation with homatropine.

C.S. fluid changes—Even during the prodromal stage characteristic changes occur in the C.S. fluid and this is, therefore, the most important diagnostic aid. C.S. fluid characters are given in Table 1.

Table 1—Showing Alteration of Characteristics of C. S. Fluid

Features	Normal	In tuberculous meningitis
Colour and character	Clear and colourless	Clear, threadlike coagulum on standing
Pressure ...	100—150 mm. of water	Increased
Protein ...	20 mg.%	60—300 mg.%
Sugar ...	70—80 mg.%	Diminished below 40 mg.%
Chloride ...	700—760 mg.%	Reduced to below 600 mg.%.
Cell per c.mm.	0—5 lymphocytes	Increased to 50—500 usually 75% lymphocytes
Culture ...	Sterile	*Mycobacterium tuberculosis* may be detected

Of the biochemical changes, low sugar value is almost constantly present. It is such an important finding that a diagnosis may be made by a simple test even in a village where there is no elaborate biochemical laboratory. Equal volumes

of C.S. fluid and Benedict's solution are mixed and brought to the boil. If no change of colour occurs it is almost diagnostic of tuberculous meningitis. The two simple tests, sugar estimation and cobweb formation, may be done even in a patient's house.

Tubercle bacilli may be demonstrated on direct smear from a centrifuged deposit and is then proof-positive of the diagnosis. Where facilities exist culture and guinea-pig inoculation may be done. Absence of tubercle bacilli, however, does not rule out the diagnosis. Here again, we seem to lag behind the West where bacterial proof is reported in as many as 70 per cent of cases.

In this connection I would emphasise that the diagnosis of tuberculous meningitis should be based not on a single finding but on the whole picture. Even the C.S.F. biochemical alterations, which are considered to be almost diagnostic, may be fallacious. Thus, the C.S.F. chloride in some cases may be above 600 mg. per cent. Again sugar may occasionally be found normal at the first examination but show progressive diminution in later examinations.

Treatment

Till recently, streptomycin was the sheet-anchor of therapy. It had to be given daily intramuscularly for at least six months and intrathecally on 75 per cent of the days intramuscular injection was given. This meant in an average case 120 lumbar punctures. This procedure carried out mechanically day after day in seriously ill patients was most painful for the patient as well as the physician and made one feel that here was a condition in which one treats the disease rather than the patient. Repeated intrathecal injections were liable to irritate the meninges and to add to the misery, spinal block was a frequent complication. On the other hand, it was impossible to rely on intramuscular injections alone as this did not yield an effective concentration in the spinal fluid. With the advent of isonicotinic acid hydrazide in tuberculo-therapy a new light appeared on the horizon. It was quickly discovered that oral INH alone yielded sufficient concentration in the spinal fluid and its efficacy was practically proved in the vastly improved results of treatment when INH was added to the regime. Some were so enamoured of the drug that they advocated elimination of intrathecal therapy completely and suggested that domiciliary treatment could now be undertaken. The pendulum seems to have swung back again from this extreme view and most people feel today that in such a dangerous disease, it is wisest to give the maximally effective therapy, viz., I.M. and I.T. streptomycin and oral INH in every case. The dose of streptomycin is 20 to 50 mg./kg. body weight. An adult receives by I.M. route 1 g. daily, a child 250 to 500 mg. and an infant and young child 250 mg. daily in one single or 2 divided doses. The dose of INH is 200 to 300 mg. in 2 or 3 divided doses in adults and 3 to 10 mg./kg. body weight for a child. It may be given I.M. in comatose patients unable to swallow. Streptomycin I.M. and INH, it is now recommended, should be continued for at least six months and if necessary upto 1 year but to avoid toxic effects of streptomycin on the vestibular portion of the VIII nerve, the dose should be reduced to 1 g. twice a week after the 3rd month. Regarding intrathecal streptomycin, the following precautions are recommended:

1. The dose should not exceed 25 mg. in babies, 50 mg. in children and 100 mg. in adults.
2. The drug should be dissolved in 10 c.c. of normal saline and administered at a rate of 1 c.c. per minute.
3. An equal volume (i.e. 10 c.c.) of C.S.F. should be withdrawn, if possible, first.

Streptomycin sulphate is the drug of choice as it is the least toxic whereas dihydrostreptomycin is liable to cause deafness. Regarding the number of I.T. injections there is no hard and fast rule, but a course of 45 injections is recommended, daily in the first month and on alternate days for the next month. Intrathecal injections should be discontinued only (i) if C.S.F. sugar has been above 40 mg./100 c.c. for 1 week, (ii) if the base line level of cells and protein is not rising and (iii) if the clinical condition of the patient is satisfactory. I have seen good results with only 30 intrathecal injections, the first 20 given daily and the next 10 on alternate days.

PAS may be given in addition to streptomycin and INH in adults with severe disease and in relapse when no side-effects are present. In children its use is not advocated because of interference with nutrition due to gastrointestinal irritation.

Besides these, three anti-exudative agents have been used with the idea of preventing spinal block, viz., (1) streptokinase, (2) intrathecal tuberculin or P.P.D., (3) cortisone, ACTH and the corticosteroids, prednisone and prednisolon. The first appears to have too toxic reactions, the second has proved useful in the hands of some workers. Cortisone and derivatives when combined with the standard regime, are reputed to have further lowered the mortality rate but the cost is prohi-

bitive and is unlikely to make it popular in our country.

Nutrition must be maintained at all costs, if necessary, by tube feeding.

Prognosis

The most important single factor in prognosis is the state of consciousness of the patient at the time of admission. The mortality is assessed at about 80 per cent in comatose and only 10 per cent in early and conscious cases. This again emphasises the importance of early diagnosis and prompt institution of treatment to ensure maximum survival rate.

SPECIAL ARTICLE

THE TEACHING AND PRACTICE OF BACTERIOLOGY

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The title of this article is likely to cause medical educationists and pathologists to raise their brows with a certain amount of boredom and vexation. It is the natural consequence of the various specialities attaining greater and greater importance quite often to a very high and discomforting degree, and the specialists demanding attention to and fighting for their specialities finding a more important place in medical practice and education. With the passage of time, one by one, the specialities have found their niche in the syllabi. A stage has now been reached when there is an all-round agreement that the syllabus is lopsided, overburdened and that it should be redrawn. How it should be, to what extent should be the cut or expansion and which subjects should bear the axe or receive the benevolence, there is as yet no clear idea. It is in this twilight, in the stage between a dying era and an era yet to be born that I put the following views for sober and serious consideration by fellow members of the profession.

Bacteriology is a young science. It has not yet completed a hundred years of its existence if we take Koch's postulates as the real beginnings of the subject as a discipline. I do not deny that by delving into medical history one can find out earlier periods in which statements have been made and theories propounded as to the germ theory of disease. But as a science, bacteriology came to stay only from the days of Louis Pasteur, i.e., from the 1880's. Pasteur, the chemist, is the father of bacteriology. Koch, the general practitioner turned a research worker, played a very great part in its development. Ehrlich, the chemist, developed immunology. Throughout, bacteriology was the handmaid to medicine, a sister discipline and a very young sister at that, always working away from the public gaze.

With the accent on cure and relief as the objectives of medical practice naturally medical men were originally concerned more with the effects of diseases and how to rectify, relieve or remedy the ill-effects than with the causative organism and its bionomics. With the emphasis being placed more on the disease than on the man himself and the causes, a stage was reached when it was widely realised that man is more important than the disease, that his environments, social, economic and mental have all to be taken into account for proper medical relief. Imperceptibly, but naturally and steadily, came the view that prevention is better than cure and that causes more than the effects have to be tackled if humanity is to survive healthily and happily. When this philosophy gained momentum, the science of preventive and social medicine was born and as a normal corollary, the science of bacteriology attained a high importance as one of the disciplines requiring extensive study, if the objective of positive health was to be achieved.

Having traced the natural development of medical science, let us see how teaching and practice of bacteriology has developed. Originally in the Madras Medical College, the oldest medical college in India*, six lectures used to be delivered, either by the professor of surgery or medicine to undergraduates in the clinical years in the subject of bacteriology. In other places when pathology departments were instituted, bacteriology was a part of that department as it continues to be to-day in many medical colleges. In the south, specially in Madras Medical College, a separate chair for bacteriology was established and parasitology too formed part of the teaching. But for university examinations, bacteriology and parasitology form part of the single paper with pathology. The normal quota of questions used to be and, continues quite often, one and a half or 25 per cent of the paper. One complete year is devoted to teaching of bacteriology and parasitology, while two years were allotted to pathology. When I was a student in the III year, i.e., in 1937 there

* Medical Colleges were established at Calcutta and Madras in 1835. Calcutta Medical College became affiliated to a University in 1857 and was followed soon after by Madras and Bombay.—Ed., *J. Indian M. A.*

used to be at the most half a dozen hours devoted to immunology and no teaching of virology or medical mycology. During July to December, the lectures in bacteriology were completed and January to March devoted to parasitology. The practical classes in bacteriology consisted of hanging drops and Gram stain, acid-fast stain, staining of urethral smear, pus and sometimes urine. Since then the science of bacteriology has advanced enormously. Bacteriology is no more a single subject. There are to-day, bacteriologists, virologists, immunologists and medical mycologists, etc., and the science has become too vast a field for a single person to have a comprehensive knowledge. With the increasing demands of preventive medicine, ecology too has assumed greater importance. For us in the tropics, medical mycology and parasitology have a much greater importance than for those in temperate and cold climates. The question which I shall now pose and attempt to answer is, have we in India advanced with the science, both in its practice and its teaching. The answer is a definite no.

The bacteriology service in India to-day, stands at the same condition at which it was in England during the 1930's. There are very few qualified full-time bacteriologists and very few bacteriology laboratories. Public health laboratories are few and are badly understaffed. Research, therefore, is at a low ebb. There are very few people taking to this speciality and even for those who want to, there is very little encouragement. In the medical colleges morbid anatomists usually head composite departments of bacteriology and pathology and hence due to no conscious fault of thiers bacteriology continues to be the younger sister but with this difference, a younger sister usually just tolerated. Thus a post-graduate degree in pathology is considered to be adequate qualification to be a teacher in bacteriology and even to practise it, in most universities in India, simply because bacteriology is a subsidiary subject for M.D. Pathology. It is relevant to point out that even in high schools a graduate in science is not permitted to be a teacher in the subject which was his subsidiary. For example, a physics man with chemistry subsidiary in B.A. is not permitted to be a teacher in chemistry! Consequently, bacteriology as a science has suffered in India and it is time that we scientists forget vested interests and take a realistic view on par with other countries if we are to hold a place in the world of bacteriology.

The following steps suggest themselves to me. Chairs in bacteriology must be established in every medical college. Postgraduate degrees and diplomas in bacteriology must be instituted in every university. A more comprehensive and up-to-date bacteriological diagnostic service must be made available in every medical college. More and better equipped and staffed public health laboratories should be started all over the country. A three year degree course in microbiology consisting of bacteriology, parasitology, applied biochemistry, etc., must be started in universities. A more comprehensive syllabus and a more realistic and supporting course in practical bacteriology must be devised for undergraduates. In the university examinations for undergraduates, there should be a separate paper comprising bacteriology and parasitology and a separate paper in pathology. The one and a half year course in pathology and bacteriology for undergraduates in medicine must be extended to the original two years.

In the Trivandrum Medical College, parasitology is taught by the pathology department and I handle only bacteriology. I have not yet started giving lectures in medical mycology. But one full academic year is devoted to bacteriology. There are two lectures of an hour's duration in bacteriology in January to March and part of April, and July to December, while there are four lectures a week in June. I devote over 14 hours for immunology, and 12 to 14 hours for viruses and 30 hours for the rest of bacteriology on the average. I am often rushed for time. A more detailed exposition of immunology has become essential because of the accent on preventive medicine and a wider knowledge of viruses has become inescapable due to the advances in medical sciences. Almost every month brings out a new cytopathogenic agent of possible human importance!! The students have nearly thirty practical classes of 1½—2 hours' duration. The aim in the practical classes is to enable the students to perform most of the techniques in bacteriology so that they grasp the subject without much difficulty. The main themes are, simple, differential and special stains (spores, capsules and flagella). Different methods of cultures (stroke, streak, stab, shake, liquid and special); examination by smear and culture of throat swabs (from each other), urine, faeces (L.F. and NLF mixtures), pus, sputa (normal and tuberculous); urethral smears; action of heat, disinfectants, etc., on organisms; agglutination reaction (bacterial), haemagglutination (viral), demonstrations of dark ground and phase contrast microscopy, Kahn reaction, egg techniques, animal inoculations and handling, special smears, cultures, preparation of media, sterilisation, etc. As the staff position improves and the organisation becomes more complete, I intend enabling the students to do simple viral techniques and put up demonstrations of common

fungi of importance and also include some skeletal lectures in medical mycology. Such a course is likely to create a greater interest in the subject. Such a syllabus is prevalent in many foreign universities. The aim is not to include such practicals in the examination. Neither is it the intention that students should have an encyclopaedic knowledge of the various branches of bacteriology. The undercurrent of emphasis is always on the applied aspect.

Not only in undergraduate curricula, but also in postgraduate courses in preventive and social medicine like D.P.H., M.P.H., B.S.Sc. the science of bacteriology occupies a great part. In these courses also, medical bacteriologists have to play a vital role. In the developing India, with the rapid expansion of the pharmaceutical industry, bacteriologists for routine and research work will be in greater demand. With the advent of antibiotics we find or we are able to diagnose newer disease entities of viral origin and these too tax the public health laboratories and epidemiologists.

Thus, whichever way we look at the problem, I feel we have not yet bestowed serious thought on it. I was pleasantly surprised when I went through the proceedings of the second World Conference on Medical Education held in London, that there was no mention in it of the teaching of bacteriology! Probably it was because, the conference held philosophical discussion on broad principles, where every one agreed on broad outlines and none bothered about the troublesome details.

CASE NOTES

CARCINOMA OF THE CERVIX WITH PREGNANCY

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Carcinoma of the cervix with pregnancy is a rather rare condition, the incidence varying between 1 in 2000 to 1 in 4000. During the period between 1955 and 1958, the author came across two cases only. One was detected early and referred to the hospital for operative treatment. As the case was a very early one, total abdominal hysterectomy was done, with removal of appendages of both sides and the greater part of the parametrium, which was followed by deep x-ray therapy.

The second case had certain interesting features and is described here.

Case Report

A patient, V. J., aged 35 years, was seen in the 5th month of pregnancy, in the out-patient department, with obstetric history of 6 full term normal deliveries, out of which 5 were living. She complained of painless bleeding per vagina for 10 days, for the first time during the present pregnancy. She was advised admission to the hospital, suspecting placenta praevia, but the patient did not agree to this. However with rest in bed and medical treatment at home, the patient's bleeding stopped. She again attended hospital with a bout of vaginal bleeding in the 8th month of pregnancy. This time she got herself admitted in the hospital.

On examination the patient's condition appeared to be fairly good, the foetal head was found floating and foetal heart sounds were present. No vaginal examination was done. The pulse rate was 120 per minute and B.P. 108/70 mm. of Hg. Her haemoglobin was 42 per cent and R.B.C. 2·8 million/c.mm.

Operation—A vaginal examination was done just before the abdominal operation and the case was diagnosed to be one of 'central placenta praevia'. A classical caesarean section, was done by modified Pomeroy's technique. The baby was alive but premature. It expired after a few hours. The mother was shifted to the wards in a good condition. In the absence of facility for blood transfusion only one pint of intradex (plasma expander) and 3 pints of 5 per cent glucose with normal saline, were given by intravenous drip method, during and after the operation.

There was no complication till the patient was discharged on the 12th day after the operation except her complaint of a blood-stained vaginal discharge which was considered to be persistent flow of brown lochia.

Follow-up—She came to the hospital two months after the operation with a history of occasional vaginal bleeding. While a vaginal examination was being conducted I encountered profuse bleeding from the vagina. This was on gentle introduction of two fingers only. Further examination revealed a big cauliflower-like growth on the cervix. The bleeding was stopped by packing the vagina tightly. 2 pints of 5 per cent glucose with normal saline, 10 c.c. of 10 per cent calcium gluconate and 500 mg. of vitamin C were given by the intravenous drip method. Vaginal pack was removed the next morning. No further bleeding followed. The patient was then discharged with advice for radio-therapy.

The patient died four months later.

Discussion

The main reason for reporting this case in such detail, is to stress upon the importance of 'speculum examination' in each and every case of such bleeding per vaginum. In this case the cervical lesion could probably have been detected much earlier if a thorough speculum examination was undertaken, when the patient came up for the first time, with this symptom.

Acknowledgment

I am thankful to Dr. I. R. Joshi, the Chief Medical Officer of Mahura Medical Unit, for permission to report this case.

KARTAGENER'S SYNDROME

P. S. MATHUR, M.D., D.C.H.

Hamidia Hospital, Bhopal

The association of situs inversus, sinusitis, and bronchiectasis is now generally referred to as Kartagener's syndrome or triad. This rare triad was originally described by Kartagener in 1933. However, it was Siewart (1904), quoted by Adams and Churchill (1937), who first published a report of a case with this pathological constellation.

Case Report

Nazni, a girl aged 9 years, was admitted to the paediatric section of this hospital on 12-3-58 with a history of cough with expectoration, occasional fever and dyspnoea for the last 6 years.

On examination crepitations and rhonchi were heard on both the bases. The apex beat was felt on the right side of the chest in the 5th intercostal space. Heart sounds were normal. The liver dullness was appreciated on the left side.

X-ray of the chest revealed the position of the heart to be on the right side of the chest. There were increased bronchial markings on the left side especially towards the base and midzone. X-ray of the sinuses showed haziness of the maxillary and frontal sinuses. X-ray taken after a barium swallow confirmed the presence of the stomach on the right side. A bronchogram could not be done as the patient did not co-operate.

Laboratory investigations—E.S.R., blood count, stool and urine were all normal. Sputum was negative for acid-fast bacilli.

Summary

A case with Kartagener's syndrome is reported.

References

Adams, R. and Churchill, E. D.—*J. Thoracic Surg.*, **7**: 206, 1937.

Kartagener (1933)—Quoted by Adams and Churchill (1937).

Siewart (1904)—*Ibid.*

TIETZE'S SYNDROME

SUSHIL CHAKRAVARTY, M.B. (CAL.), M.S. (MED.) PENN, F.C.C.P.

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Tietze first published in 1921, a series of four cases of painful swelling in the region of the upper costal cartilages. This has since been known as Tietze's syndrome. Tietze's syndrome can be defined as painful non-suppurative, non-neoplastic and non-specific swelling of the costochondral or sternoclavicular junction of unknown aetiology. Tietze's syndrome is also known as Tietze's disease and costal chondritis and Tietze himself described it as dystrophy of costal cartilage. There are only 189 cases reported up to February 1958 and only one case reported in Indian literature (Wrench, 1943). It would seem therefore that Tietze's syndrome is a rare entity and as such the syndrome may be unrecognised.

Considering the paucity of report in Indian literature a case of Tietze's syndrome is worthwhile reporting.

Case Report

A thirty-five year old Hindu female was first seen in Calcutta on 15-9-56. She was keeping normal health until 13-9-56, when she complained of pain on the left side of the sternum over the left second costal certilage. The pain was intermittent in character and was aggravated with deep breathing and cough. Sometimes movements enhanced the pain. On 14-9-56 a swelling appeared.

On examination there was a fusiform swelling measuring about $1'' \times 2''$. There was localised tenderness. The skin over the swelling was freely movable.

Systemic examinations were non-contributory.

Family history showed that father died of pulmonary tuberculosis when the patient was five years old.

Roentgenogram of the chest and costal cartilages were negative.

Haemograms, erythrocyte sedimentation rate and urinalysis were normal.

The case was diagnosed as one of Tietze's syndrome.

Treatment—The patient was advised to take rest and apply heat locally. Analgesics for pain were also advised.

The pain subsided within four days. After two weeks, tenderness and swelling diminished but still there was some tenderness and swelling.

Vitamin B-complex was given intramuscularly thrice weekly for two weeks. Tenderness disappeared in another two weeks. The swelling subsided completely in about five weeks' time. It has not recurred.

Discussion

Tietze's syndrome does not come under the category of infectious, neoplastic, metabolic, degenerative or traumatic disease. It is mainly of clinical interest because of its significance in the differential diagnosis of chest pain. The pain of Tietze's syndrome may simulate pleurisy, angina pectoris, intercostal neuritis and other syndromes.

The case of Tietze's syndrome, which is reported here had a sudden onset and the swelling persisted for about five weeks though pain and tenderness subsided with analgesics. The patient was given vitamin B-complex parenterally. After this therapy the swelling subsided and completely disappeared in five weeks' time. Evans and Eames (1942) pointed out that the syndrome was a local manifestation of vitamins B and C deficiencies. But it cannot be definitely said that vitamin B-complex worked specifically in this case. It might, however, be given a fair trial.

References

Wrench, G. T.—*J. Indian M. A.*, **12** : 146, 1943.

Evans, G. and Eames, R. O.—(Correspondence) *Brit. M. J.*, **2** : 352, 1942.

DISTOCIA DUE TO PREGNANCY IN A BICORNUATE UTERUS

(Miss) RAMA VAISH, M.B.M.S. (Luck.), M.R.C.O.G. (Eng.)

Lecturer, G. S. V. M. Medical College and Surgeon, Dufferin Hospital Kanpur

Introduction

The term 'bicornuate uterus' is often loosely applied to all variants in duplication of the uterus; strictly speaking it should include only uterus arcuatus and uterus bicornis unicollis (Munro Kerr and Chassar Moir, 1949). It is a serious congenital deformity of the uterus and although cases are on record in which it caused no disturbance of pregnancy or parturition, there have been several cases in which the labour was obstructed. One very rare cause of distocia in bicornuate uterus is axial rotation of the gravid uterus. In the literature only one such case was reported in which, at term, one fundus was in the normal position while the other fundus containing the head of the child was situated in the pelvis in a retroverted position. Delivery was performed by caesarean section. The same complication occurred in our case in which the cause of distocia was considered to be cervical atresia and the true nature of obstruction was realised only on laparotomy.

Case Report

G. D., Hindu, F., aged 22 years, was admitted in Alice Horseman Memorial and Dufferin Hospital on 3-2-58 complaining of labour pains of 3 hours' duration. She had amenorrhoea for 9 months. Her obstetric history was that her first child was born as breech but had died on the next day ; second pregnancy was terminated by caesarean section and resulted in a stillborn baby.

On examination the fundal height was as at term, but the outline of the uterus was reniform, its concave margin being on the right side of the mother's abdomen. The child was presenting as vertex which was engaging. The position was L.O.A. and foetal heart sounds were normal. The cervix or the os uteri could not be identified by a vaginal examination and the vaginal dome was found to be smooth. The head was situated in midcavity and there was no cephalopelvic disproportion.

A diagnosis of cervical atresia was made and delivery by caesarean section decided upon.

Operation—The abdomen was opened and an incision made at the level which was considered to be the lower uterine segment, though there was difficulty in making a bladder flap. After the baby and placenta were removed, true anatomy of the uterus was discovered. The cervix had become pushed high up to the left and, therefore, was out of reach of the fingers when examined vaginally. The uterus was bicornuate ; the baby was lying transversely in relation to the uterus which had undergone axial rotation in such a way that the right cornu containing the head was lodged in the pelvic cavity and the left cornu containing the breech was below the xiphisternum. The uterine incision was found to be sited between the two cornu and had extended on the right side beyond the constriction notch on the upper border of the uterus during the extraction of the baby. The incision was stitched in two layers and the patient was sterilised.

The progress of the mother and that of the child was uneventful.

Reference

Munro Kerr, J. M. and Chassar Moir, J.—Operative Obstetrics, 5th Edition, 1949, Bailliere, Tindall & Cox, London.

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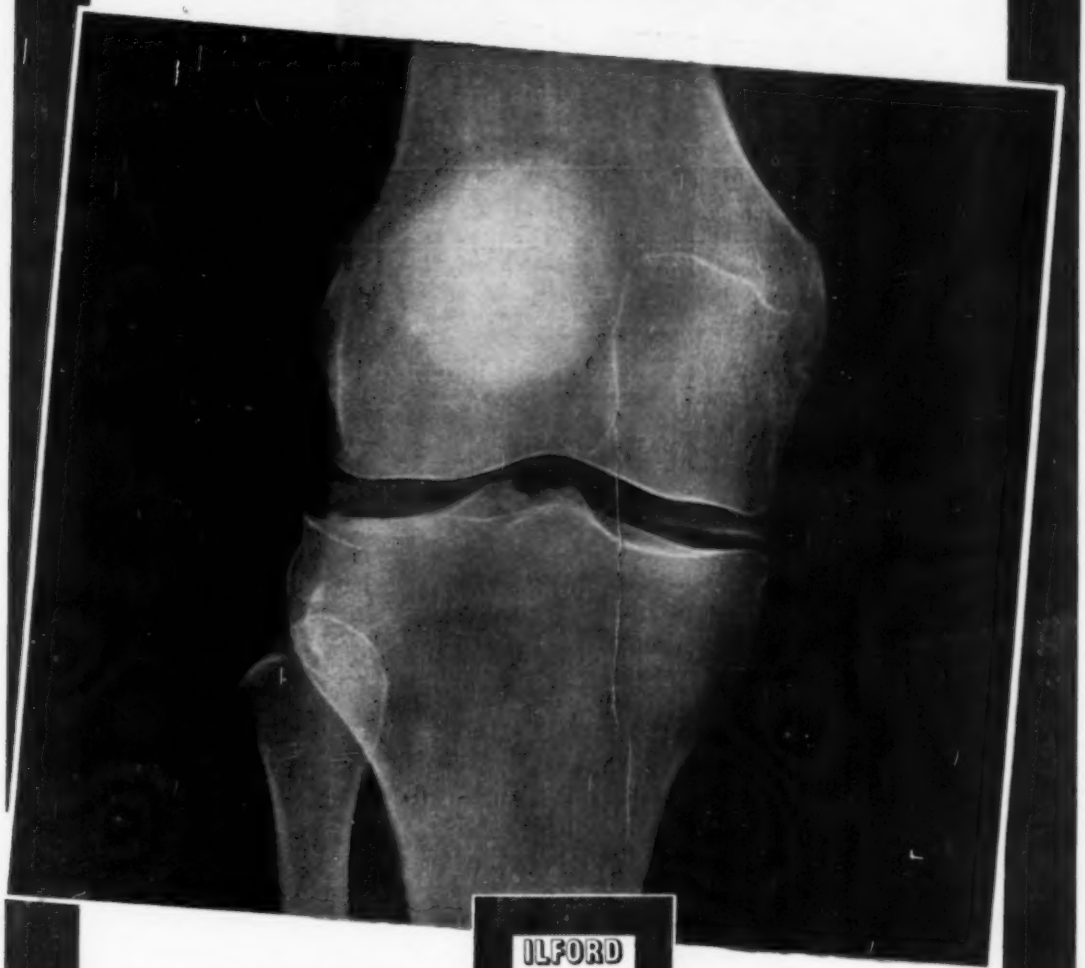

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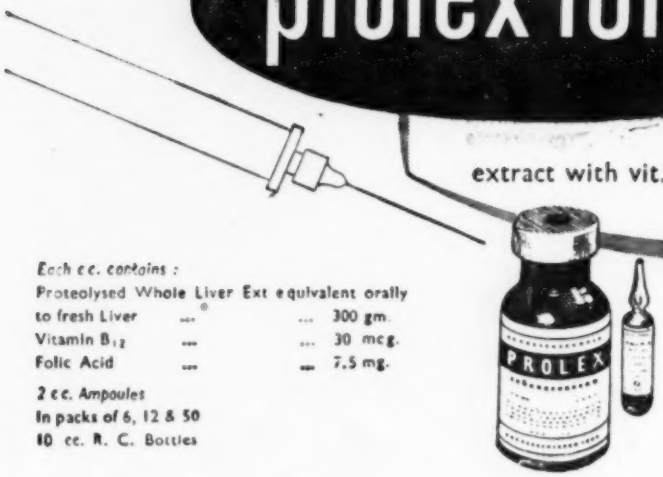

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JOURNAL OF THE
INDIAN MEDICAL ASSOCIATION

CALCUTTA, APRIL 1, 1959

WORLD HEALTH DAY

The World Health Day which comes round on the 7th of this month, as is well known by now, is meant to be an occasion on which national and local health authorities, together with other bodies concerned in health, education and welfare, should join hands around the globe in order to stimulate the interest of the people everywhere in health needs and to promote their active co-operation in measures undertaken for the improvement of public health. The observance of the Day is built around a theme which on the present occasion is Mental Illness and Mental Health in the World of Today.

This is for the first time in eleven years since the Day was sponsored that attention has been focussed on mental health and mental illness. Many of the present-day illnesses that are not considered mental are directly attributable to mental causes. That the body and the mind have a close relationship between themselves and that they act and react on one another is now well known. Though not unknown previously the idea had been passed by until comparatively recently. People were considered either sane or insane and society had to be 'protected' from the latter by keeping them in detention in lunatic asylums, from which few returned.

Happily, that is changing and we realise that it is almost impossible to draw a boundary between the sane and the insane. It is now clearly recognised that mental disease is like other diseases and in a considerable number of cases curable or at least rehabilitable. The man in the street has however still his horror of the mentally sick as he has for the victim of leprosy. The horror in either case is illogical and stems from wrong ideas. The public evidently needs to be educated on this point. We hope the World Mental Health Year in 1960 sponsored by the World Federation of Mental Health and its member-societies will help dispel much nonsense about mental illness.

Mental illness is not an isolated or unrelated entity but is part of and a direct consequence of the process of living. Stresses are inevitable in the simplest mode of living and in the modern way of life stresses have increased and will go on mounting as we develop more and more rapidly.

It has been rightly pointed out that had bodily diseases reached the proportions of the many existing social ills, an epidemic state would be declared and strong measures taken to combat them.

Conditions in India are supposed to be better than what prevail in the more developed countries, where the insanity and neurosis rates are as high as 1 and 10 per cent respectively, even though the statistical data to base Indian figures on are somewhat conjectural.

Govindaswamy[1] gives the following picture:

"About 2 per thousand of our population is likely to be afflicted with a mental disorder which sooner or later requires hospitalisation. We have also to take into account the mental defectives who average at least 8 to 10 per thousand of our population. Further we must include in this category various types of physical illnesses like high blood pressure, skin disorders of various types, cardiovascular conditions and others in which chronic emotional stresses do contribute a major share. Added to this formidable list we have problem of social pathology. In our country, about 1,750,000 crimes are committed every year; between 15,000 and 17,000 people commit suicide in a year; and, at the lowest estimate, about 15 to 20 per cent of our teenagers are juvenile delinquents."

The picture is sufficiently disquieting and conditions are likely to worsen with the increase in the tempo of development to which we are committed.

Though the nature of mental illnesses continues to be unclear and their treatment remains largely empirical, much can now be done both in the preventive and the curative fields. It is perhaps best that treatment of mental diseases be integrated into general medicine.

The present conditions are very unsatisfactory. A WHO Consultant in an Asian country has reported of a mental hospital which he does not locate, the *genre* of which is familiar. "It was built," says he, "80 years ago and originally belonged to a jail." It is grossly overcrowded and has 400 female and 1,125 male patients. "There are 7 doctors on the staff who have no psychiatric training. No one in the whole hospital has any idea of modern socio-therapeutic mental hospital treatment nor of psychiatric nursing." It will thus be futile to have hospitals without first training the requisite medical and ancillary personnel. The sad fact remains that hospital beds, outpatient facilities, psychiatrists, psychologists and mental health nurses are far too short of our requirements.

[1] GOVINDASWAMY, M.V. (1958) *J. All-India Inst. Mental Health.*

PRESIDENT'S VISIT TO ASSAM AND CALCUTTA

Dr. C. O. Karunakaran, President of the Indian Medical Association, visited Shillong in January 1959 in connection with the meeting of the Central Council of Health. During his stay he had discussions with the Chief Minister of the State on local health problems. He visited various places in Assam, met I. M. A. members there, exhorted them to enlist more members to strengthen the Association and appealed for contributions to the I. M. A. Building Fund. A few photographs taken during his tour in Assam are reproduced.

After his eventful tour in Assam, Dr. Karunakaran flew to Calcutta where a busy 4-day programme awaited him. Apart from official and social activities he held a press conference on 24-1-59 and in a handout explained in short the policy to be followed by him during his tenure of office.

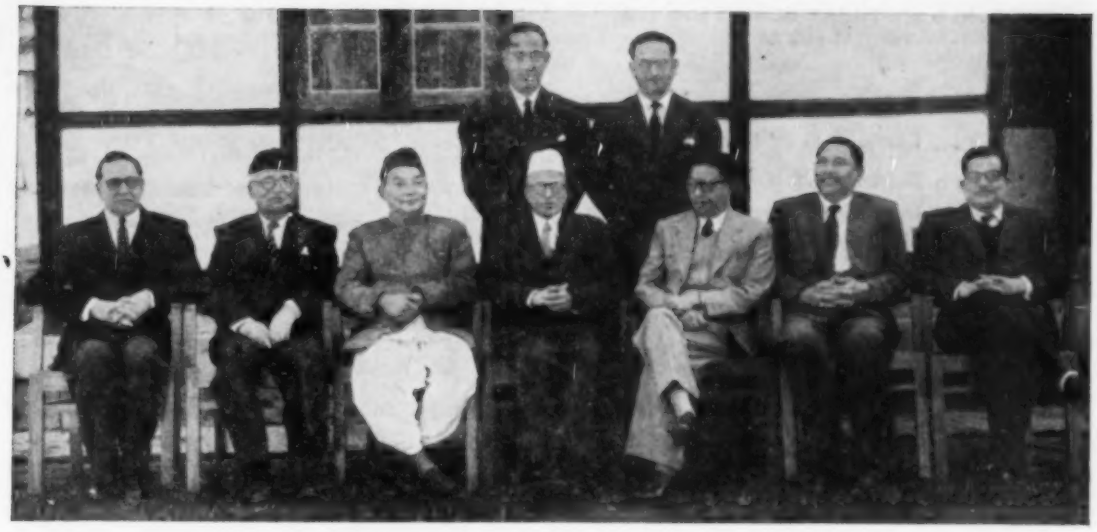
PRESIDENT'S VISIT TO ASSAM

Dr. C. O. Karunakaran, President of the Indian Medical Association, who came to Assam to attend the meeting of the Central Council of Health at Shillong, utilised his visit also to meet as many members of the Association as he could, during his stay for a period of one week, in this State.

He spoke at the reception by the Shillong Branch on 15th January, 1959 in honour of the members of the Central Council of Health in which he emphasised the necessity for the State Governments and the Indian Medical Association to work in a spirit of understanding and cooperation for the furtherance of the health of the Nation by implementing various Health schemes undertaken by Governments during the plan periods.

On 17-1-59 he met the members of the executive committee of the Shillong Branch and had a discussion about membership campaign and collection of funds for the Central Office buildings.

On 18-1-59 he met the Chief Minister together with Dr. S. P. Nath and had a cordial talk for about 45 minutes, in which the resolutions passed at the last conference of the Assam State Branch



were discussed. The possibility of utilisation of the services of the independent medical practitioners for school health service, antituberculosis and antileprosy campaigns and in starting itinerary dispensaries in out-of-the-way centres were also discussed. The same day, in the evening, he met the members of the Gauhati Branch at a tea party and later was the guest of honour at a dinner party arranged by the Branch.

On 19-1-59 he visited Nowgong and met the members of the Nowgong Branch at a luncheon arranged in his honour.

On 20-1-59 he met the members of the Jorhat Branch at a lunch given in his honour. Then he proceeded to Sibsagar and met the members of the local branch at a tea party. The same day he proceeded to Dibrugarh and met the members of the local branch at a dinner party in the Assam Medical College and addressed the gathering.

On 21-1-59 he met the doctors of the Digboi Oil Refinery at a tea party organised by the local doctors and the C.M.O., Dr. T. A. B. Edwards. Though there is no branch at Digboi at present the C.M.O., Dr. T. A. B. Edwards, signified his keen interest in the Association and expressed hope of starting a local branch there. In the same meeting the C.M.O. was elected President of the local Branch to give a start to the New Branch of the Association.

The same day he met the members of the Tinsukia Branch at a tea party.

At all these meetings the necessity of enlisting as members of the Association, every qualified doctor in the area and also the urgency of contributions to the Building Fund were emphasised.

On 22-1-1959, in the morning, he addressed the students and staff of the Assam Medical College and specially advised the students to join I.M.A. after their graduation. He left for Calcutta by plane the same afternoon.

It was gratifying to note that the response at all these meetings was very encouraging, and it is hoped that liberal contributions will be forthcoming from all the Branches for the Building Fund in the course of two to three months.

Arrangements were also made for the opening of two new branches, one at Bokakhat and the other at Digboi.

The President was accompanied in his tour by the State Secretary, Dr. B. N. Chaudhury, Dr. S. P. Nath and Dr. P. C. Duarah. Drs. Baruah and Goswamy of the Dibrugarh Branch accompanied the party on the last two days of the tour.

PRESIDENT'S ITINERARY DURING HIS VISIT TO CALCUTTA

Thursday, 22nd January, 1959

5-10 P.M. .. Lands at Dum Dum Air Port.

5-20 P.M. .. Drives to I.M.A. Office at 67, Dharmatala Street, Calcutta 13.

6-00 P.M. .. Visits I.M.A. Office—Tea party arranged by Bengal Provincial Branch, I.M.A.

7-00 P.M. .. Puts up at 12/1, Lake Colony, Calcutta 33, as the guest of Dr. Debesh Mukherjee.

Friday, 23rd January, 1959

Morning .. Visits Dental College, Calcutta.

9-00 A.M. .. Hoists Flag in the Netaji Birthday Celebration at Calcutta National Medical College, Calcutta.

11-00 A.M. .. Witnesses Festival Cricket Match between the I.M.A. and the Calcutta National Medical College at the latter's ground.

5-30 P.M. .. Meets Dr. B. C. Roy, Chief Minister, West Bengal, at the Secretariat.

8-00 P.M. .. Attends Dinner Party at Calcutta Dental College.

Saturday, 24th January, 1959

Morning .. Visits Dental College, Calcutta.

11-30 A.M. .. Addresses Staff and Students at Nilratan Sarcar Medical College.

1-00 P.M. .. Lunch at Nilratan Sircar Medical College.

3-00 P.M. .. Attends Press Conference at I.M.A. Office.

6-45 P.M. .. Attends Journal Committee meeting at 23, Samavaya Mansions, Corporation Place, Calcutta 13.

8-00 P.M. .. Attends Dinner Party at I.M.A. Office.

Sunday, 25th January, 1959

3-30 P.M. .. Attends Conference of Presidents and Secretaries of the local branches of the I.M.A. in Bengal at the I.M.A. Office.

10-30 P.M. .. Leaves Dum Dum Air Port by night plane for Trivandrum.

HANDOUT BY DR. C. O. KARUNAKARAN, PRESIDENT, I.M.A., AT THE PRESS CONFERENCE ON 24-1-59, AT 3 P.M. AT THE I.M.A. HALL, 67, DHARMATALA STREET, CALCUTTA

The Indian Medical Association's aim is to play the legitimate role of national medical associations as in all civilized countries in the promotion of national health. The Association feels that, if the results of various health schemes adumbrated in successive five year plans are to be commensurate with investments on them, the entire medical profession shall play its full part in the implementation of the schemes, i.e., school health, rural health, family planning, health education, anti-tuberculous, anti-malarial schemes, etc.

I have had discussions with the Chief Ministers of Assam and West Bengal on this and both appeared to be keen in mobilising the entire medical profession for the furtherance of health programmes. The Medical Associations of both States have been asked to draw up proposals for the active participation of independent medical practitioners in national health schemes.

It appears unattainable, in the near future, for outlying and remote areas of States to have a well integrated health scheme. The immediate remedy is to utilise the services of independent medical practitioners and give them some kind of a subsidy for their services. While such a scheme will ease the financial burden of the Government, it will give an opportunity and encouragement to independent medical practitioners to make their services available to their community.

The School Health Scheme does not brook delay. The Health of successive generations is going down and that has fundamental bearing on national prosperity. The problem is of staggering magnitude. In West Bengal itself, I understand,

there are over 30 lakhs of school children. No school health scheme will be practicable unless the entire medical profession is utilised for it. The Calcutta Branch of the Association has studied the problem carefully and drawn up a good scheme. It is hoped that this will be considered by the authorities and necessary action taken at an early date. West Bengal has a larger number of doctors in proportion to the population than other States. Therefore this State offers better prospects of implementing a good school health programme which can well become a model to the rest of Bharat.

Family Planning in particular needs the full support and co-operation of all medical practitioners. The declaration by Prof. Julian Huxley, that we have not yet enough food to feed half of the population and not enough resources to educate a third of the population, is of special significance to India. As one who has for many years advocated family planning, I feel strongly that it is extremely dangerous for India to allow birth rate to go on at 7·5 million annually and the entire medical profession should be mobilised for checking this alarming growth. The Medical practitioners in general, are willing to help in this matter. But their out-of-pocket expenses should be covered by appropriate subsidy.

Incidentally, I may state, that the impression which appears to have been created in certain quarters that I advocated legalisation of abortion in my Presidential Address at Cuttack is not correct. I have for some time advocated a graded taxation on child birth, from the fourth confinement. I feel confident that this tax will not fall unduly on the poor villagers. From my experience, as a member of the Family Planning Board, of Kerala, I can say that the poor labourers do not want large families. They have no convenience to use the usual contraceptives and neither can they be depended upon to use the contraceptives efficiently. Sterilisation operation is the only dependable method in their case. I feel that the vast majority of lower income group women will be glad to undergo sterilisation at the time of their third child birth (in case two children are living and healthy) if free operation is available to them. Taxation will make it obligatory on the part of midwives, and birth and death registrars to inform expectant mothers about the necessity of operation and the facilities available for it. A taxation of this kind will prevent interested persons from misleading the poor people on religious or sentimental grounds. The rich who resent legislation should not object to taxation, because they will be only sharing the extra burden which unrestricted production will place on the Government.

The Gauhati Branch of the Indian Medical Association has been paid Rs. 10,0 0/- by the Central Health Ministry for Tuberculosis Survey. I have no doubt that the Association will show how the money is spent usefully and economically. The collaboration of the Association and State Governments in health measures is a duty both of the National Medical Association and the National Government.

It is refreshing to find that in West Bengal the per capita expenditure on Health Services which was below Re. 1/- in 1948 is now about Rs. 3/-. But the fact remains that vast numbers in rural as well as urban areas have yet to benefit by this increased expenditure.

It is my duty to point out here that no effective relief measures can be formulated or implemented unless all the interests, the Government, the people and the profession join hands and make their full contribution. It is the duty as well as the rights of the organised medical profession to see that the existing defects are rectified as early as possible. The State Branch of the Association is fully conscious of this.

I am glad to state that on the basis of the discussion I had with the Chief Minister of West Bengal (where some of the representatives of the State were also present) that the State Branch of the Association (West Bengal) will soon prepare a comprehensive rural health scheme calling for the conjoint efforts of the Government and the private practitioners. I must give my compliments to the Chief Minister of West Bengal in inviting such a Scheme from the I.M.A. and also his courtesy inviting me and my friends at a very short notice.

CURRENT MEDICAL LITERATURE

Serum Proteins in Pulmonary Tuberculosis

GAITONDE, B. B., SHINDE, A. G. AND RAO, G. S. (*Indian J. Tuberc.*, **6** : 12, 1958) from Grant Medical College & J. J. Group of Hospitals, Bombay, give in the following lines the summary of their observations on the paper electrophoretic study of serum proteins in pulmonary tuberculosis :

55 cases of active pulmonary tuberculosis were studied clinically and their serum protein pattern was studied by electrophoresis.

All patients showed a marked fall in total proteins.

There was a fall in albumin content even in very early cases but a rise in alpha 2 and gamma globulin; beta globulin showed a slight rise.

Clinical status was better correlated with albumin/alpha 2 ratio than E.S.R.

In all the cases albumin/alpha 2 ratio was below three, although there was no marked proteinuria.

It is suggested that albumin/alpha 2 ratio is a better criterion of the severity of tuberculous process.

Histopathological Lesions in Experimental Tuberculosis

GOYAL, R. K. AND GUPTA, D. P. (*Indian J. Tuberc.*, **6** : 20, 1958) from the Department of Pathology, S.M.S. Medical College, Jaipur, from an analysis of their study write :

A virulent strain (Pershad) of tubercle bacilli isolated from a case of osseous tuberculosis was used in most of these experiments. Another strain (157) isolated from the kidney of a case of pulmonary tuberculosis on post-mortem examination was used occasionally for comparative purposes. The Pershad strain was injected mostly by the intramuscular route in doses varying from 5 bacilli to 100,000 bacilli, the guinea-pigs were sacrificed at intervals varying from 7 days to 3 months. The No. 157 strain was injected in doses of at least one million bacilli per c.c. In all 238 guinea-pigs obtained from different parts of India, were autopsied after injection, a histopathological examination was carried out in 128 cases, the rest were examined only by the naked eye. The results are summarised thus :

There was a marked variation in the type of the lesions observed. They could be categorised thus :

1. Lesions resembling those of sarcoidosis, i.e., reticulo-endothelial hyperplasia, presence of giant cells, absence of the lymphocytic zone and of caseation. 2. Reticulo-endothelial hyperplasia only. 3. Reticulo-endothelial hyperplasia plus necrosis. 4. Reticulo-endothelial hyperplasia plus necrosis or caseation. 5. Reticulo-endothelial hyperplasia plus lymphocytic zone. 6. Prolonged persistence of polymorphs in the lesions.

There appear to be two factors involved in the production of different types of lesions, one is the virulence and the dose of the strain injected and the other is the variation in the resistance of the guinea-pigs injected. Caseation was found to be more or less absent in tubercular lesions in guinea-pigs obtained from Lucknow, whereas it was occasionally encountered in guinea-pigs obtained from Kasauli or Bombay. It also appears that different organs may react differently to the same infecting dose of the bacillus. The sarcoid-like lesions were encountered specially in the liver and sometimes in the spleen.

The polymorphe tend to persist for a fairly long time in tubercular lesions, if the virulence of the organisms is high or the resistance of the animals is low.

Necrosis in the tubercular lesions is much more commonly encountered than caseation.

The lesions in different organs differ to some extent. Reticulo-endothelial hyperplasia was much more commonly encountered than any other type of lesion. The sarcoid-like lesions were encountered specially in the liver and sometimes in the spleen.

Self-medication in Tuberculosis

Some patients take medicines regularly but others do not. The medicine cupboard full of half-used bottles and boxes is almost a music-hall jest ; it has seldom been a subject for serious medical study. But in some diseases self-medication is important. Oral drugs had been used in treating tuberculosis for several years before any serious thought was given to whether the patients were, in fact, taking their medicine when left to themselves. It was, it seems, unthinkingly assumed that prescribing p-aminosalicylic acid (PAS) and isoniazid was the same as treating patients with these drugs. Fox (*Tubercle, London,* **39** : 269, 1958) points out that there are good reasons to question the dependability of patients with other diseases—for example, diabetes, acute pharyngitis, rheumatic fever, and leprosy. Simpson (*Tubercle, London,* **37** : 333, 1956) in Edinburgh first drew attention to the high proportion of tuberculous patients treated out of hospital who (as was shown by urine tests for PAS) had not taken their prescribed dose; in his series 24 per cent had negative tests. Dixon *et al* (*Lancet* **2** : 871, 1957) in London recorded 50 per cent negative ; and Wynn-Williams and Arris (*Tubercle, London,* **39** : 139, 1958) at Bedford 49 per cent. Similar studies have now been made in Madras during the extensive investigations on the chemotherapy of tuberculosis conducted by the Indian Council of Medical Research, the Madras Government, the World Health Organisation, and the British Medical Research Council (Fox—*Tubercle, London,* **39** : 269, 1958).

Patients are being treated in their homes with cachets containing PAS and isoniazid, attending a clinic weekly for fresh supplies. They are also regularly visited in their homes, and close attention is paid to explaining in simple terms the need for long-continued and regular taking of cachets. Urine specimens are collected during frequent but unexpected visits, and these are tested for the presence of PAS. Of 58 patients observed for twelve months, 20 per cent during the first six months of treatment, and 14 per cent during the second six months, gave at least one negative result each month. These proportions cannot, of course, be directly compared with those in other series with different methods and frequencies of testing; but they appear not to be grossly different. Certainly, with this intensive, individual home treatment of patients in Madras—far more

thorough than is generally adopted in this country—self-medication seems as regular as among better educated patients of Edinburgh, London, and Bedford.

Dixon *et al* (*loc cit*) and Wynn-Williams and Arris (*loc. cit.*) found that young women were the least regular takers of the drugs. In hospital, similar studies have shown little irregularity in either sex. The trouble begins when the onus of regular medication falls entirely on the patient in his own home and during his normal daily routine. Previous "education" in hospital seems to have no effect, and those who have begun treatment in hospital are found to be as irregular as those who have not. It has sometimes been uncritically assumed that patients do not take their drugs because of the taste of PAS or the unpleasant gastrointestinal symptoms that it can produce. Certainly, those who suffer from these side-effects take the drug less regularly than those who do not. But the proportion of negative urine tests may still be high even when the patients admit to no ill effects; and it is improbable that failure to take the medicine regularly is greatly influenced by the minor unpleasantness of the PAS in it. Now that a satisfactory simple test for isoniazid in the urine has been devised, it will be possible to carry out similar studies among patients in areas where this drug is regularly alone.

Fox investigated the reasons for irregularity by close but sympathetic questioning of the patients. Only a very few had minor side-effects; some attributed unassociated minor complaints to the medicine and gave this as their reason for stopping; others did not take the cachets on religious fast days, or because they regarded certain days as inauspicious for medicine-taking. In some patients the improvement of appetite from the treatment brought pangs of hunger that they were unable to satisfy—a tragic indication of the inability of the economic structure to keep pace with medical advance. A large proportion gave no explanation; they forgot or were indifferent. Similar questioning in other societies would certainly bring out different reasons; but forgetfulness and indifference are without doubt the commonest and most important factors in all societies. As Fox says: "In essence, in order to make a patient take medicine regularly morning and night for a year it is necessary to establish a new pattern of behaviour." The next stage should clearly be to study how such a pattern can be most effectively and simply established in a particular environment. Are large pills better than small, pink than white, tasteless than sweet? Is once a day better remembered than twice? On the evidence there seems to be no justification for giving PAS and isoniazid more than twice a day, and if cachets have to be taken to work for the midday dose they will probably be often forgotten. Is it easier to get into the habit of taking medicine in the morning or in the evening? How best can the habit be taught and maintained?

It might reasonably be asked whether entirely regular medication in tuberculosis is necessary, provided the medicine is given in such a form that one drug cannot be taken without the other. Despite the apparently alarming incidence of missed doses many patients recover and remain well. In one study of treatment out of hospital, 6 of 7 patients who relapsed admitted to irregular medicine-taking; but it was not stated what proportion of those who did not relapse also admitted to this. Further investigations of the minimum frequency of self-administration of the anti-tuberculosis drugs that will be effective in different types of disease should be attempted. But such studies would not be easy and their results might not be convincing. Meanwhile it seems that the present dosage schemes must remain, with the exhortations of physicians and health visitors to swallow the medicine night and morning. In tuberculosis rest is giving way to self-medication; treatment thus depends largely on the patients, but physicians cannot yet be satisfied that they know enough to make reasonably sure that their patients help themselves (*Leading Article*, *Lancet*, **2**: 946, 1958).

Short Oblique Fracture of the Tibia

Boylston, B. F. and Knight, R. M. (*J.A.M.A.*, **167**: 1477, 1958) from the Orthopaedic Section, Department of Surgery, Baylor University College of Medicine, Texas Medical Centre, give as under the summary of their observations on short oblique fracture of the tibia:

A series of 29 short, oblique tibial fractures, comprising 5 per cent of a total of 598 tibial fractures, were treated by many different surgeons and methods over a period of seven years. Ten per cent of the fractures were compound. There were three wound infections (10 per cent). One case did not involve bone. Of the remaining two involving bone, one resulted in amputation and one in nonunion at 16 months without drainage. Partial weight bearing was begun earliest in those cases treated by intramedullary rod. Full weight bearing was begun earliest in the one case treated by plate and transfixing screw. Rotation tended to be the main deformity preoperatively in patients with high fibula fractures, with low fibula fractures shortening and displacement were most prominent.

Tibia healing required just as long with high fibula fractures as with low fibula injuries. No delay in healing was caused by the intact fibula. A varus deformity at the fracture site was the most common malunion, occurring in five cases. Also, one patient had 10 degree recurvation at the fracture site. All malunions were asymptomatic at the time of follow-up. There were no primary bone grafts. Two bone grafts were performed for delayed union (both were found united at surgery). Skin necrosis occurred in five cases; one required a skin graft for closure.

A short oblique fracture of the middle and lower one-third of the shaft of the tibia is relatively stable in the presence of an intact or high fibula fracture (78 per cent) The deformity is rotation. Fifty per cent of the distal tibial fragments have a vertical line of fracture which may not be obvious in the original x-ray. The established nonunions (two) occurred incident to deep postoperative wound infections. Shortening and rotation did not result in clinical deformity.

From the standpoint of healing by x-ray and time of unsupported weight bearing, no one method in our experience in the treatment of the short oblique tibial fracture with an associated high fibula fracture offers

any advantage over another. Barring surgical infection, regardless of method, healing is anticipated in acceptable clinical alignment and position. Short oblique fractures of the tibia with concomitant fracture of the fibula at the same level are extremely unstable and can probably best be managed by some type of internal fixation.

Assessment of Fracture Union

Union of fractures is usually assessed by clinical and radiographic criteria. Free movement between the fragments is convincing evidence that union has not yet occurred ; but local tenderness, and pain on straining the fracture, are of much less significance. In certain regions, particularly where union is slow and uncertain, it is customary to await radiographic confirmation; but often this delays weightbearing and the return to full activity.

There is clearly need for a method which determines when the process of union has reached an irreversible stage. Perhaps the work of Siegal *et al* (*Surg. Gynec. & Obst.*, **107** : 327, 1958) will provide a basis. Measurement of the velocity of sound has long been used to test the quality of materials, but its application to fracture union is new. The method consists in sending a brief sonic pulse through a leg by means of a transmitting transducer. In the laboratory animal the tibia was then fractured, and conduction in the normal tibia was compared with that in the bone with a healing fracture. The velocity of conduction was reduced across the fracture, and this returned to normal only when union was complete. A small series of patients with tibial fractures was examined, and reduction of sound velocity was also observed. It is unfortunate that serial observations on these patients were not made. Nevertheless, this method may well have clinical applications once its limitations have been more clearly defined (*Annotation, Lancet*, **2** : 1004, 1958).

Current Status of the Pregnant Cardiac

Kaufman, J. M. and Ruble, P. E. (*Ann. Int. Med.*, **48** : 1157, 1958) from the Cardiology Division, Department of Medicine, Harper Hospital, Detroit, Michigan give in the following lines the summary of their observation on the current status of the pregnant cardiac :

Most haemodynamic changes of pregnancy become significant early in the second trimester.

The haemodynamic changes of pregnancy may greatly modify heart murmurs and other physical findings.

A patient with either rheumatic or congenital heart disease should be evaluated both medically and surgically early in pregnancy. When cardiac symptoms appear early and surgical improvement of the heart is possible, surgery is preferable to abortion.

Ninety-six patients with mitral commissurotomy subsequently became pregnant, with only one maternal and foetal mortality.

Ninety-three mitral commissurotomies were performed during pregnancy, with three early cases of maternal mortality, probably avoidable with anaesthesia and surgery. Eighty-eight live babies were delivered in this group.

Twenty-two patients with patent ductus were sectioned during pregnancy, with no maternal mortality and only one miscarriage one month following surgery.

Patients with various other types of congenital heart disease, such as coarctation of the aorta, tetralogy of Fallot, and interatrial and interventricular septal defects, may go through pregnancy safely.

Though ideally done before pregnancy, heart surgery is often a safe procedure during pregnancy for mother and baby.

Heart surgery is an adjunct to good medical management, and the patient should have the advantage of careful medical management through pregnancy, delivery and the important postpartum period.

Ectopic Pregnancy

Malkasian, G. D. Jr., Hunter, J. S. and Remine, W. H. (*J. A. M. A.*, **168** : 985, 1958) from the Sections of Obstetric and Gynecology and Surgery, Mayo Clinic and Mayo Foundation from an analysis of 322 consecutive cases of ectopic pregnancies in 306 women observed during the 20-year period 1935-54 write :

In comparing the experience in the first 10-year group with that in the second, the authors found the following factors essentially the same in the two groups : age, parity, initial complaints, incidence of abortion, the correctness of diagnosis in the pathologically proved cases of ectopic pregnancy, and the pathological diagnoses when findings were other than the clinically suspected ectopic pregnancy.

A tendency toward increasingly conservative surgery and more liberal use of blood transfusion was noted in the later group. Also noted in the later group was an increased number of women having subsequent pregnancies. The maternal mortality was 0·3 per cent ; no maternal deaths occurred in the last 12 years under study. The study suggests that the morbidity of appendectomy with surgical operations for ectopic pregnancy is no greater than with abdominal hysterectomy. If dilatation and curettage had been performed on all patients suspected of having ectopic pregnancy in the series under review, 18 intrauterine pregnancies that later reached term would have been interrupted.

Simultaneous Colposcopy and Cytology in Screening for Cancer Cervix

Navratil, E., Burghardt, E., Bajardi, F. and Nash W. (*Am. J. Obst. & Gynec.*, **75** : 1292, 1958) from the University Frauenklinik, University of Graz. Austria write that colposcopy is particularly useful as a specific method of early diagnosis of preclinical carcinoma of the cervix, when used in conjunction with cytology. Thus used, it compensates greatly for any error of cytology. This fact is demonstrated by the results of routine examinations of 18,112 patients in whom 306 preclinical carcinomas were discovered.

A second advantage of colposcopy is the ability to aim a punch biopsy with great accuracy and to avoid many unnecessary biopsies. Furthermore colposcopy has great importance as a method of teaching and investigating pathological changes of the ectocervix.

CURRENT TOPIC

ALL-INDIA PAEDIATRIC CONFERENCE

The following are extracts from the Presidential Address of Dr. K. C. Chaudhuri, Director, the Institute of Child Health and Head of the Department of Child Health, University College of Medicine, Calcutta, delivered at the 10th session of the All-India Paediatric Conference held at Nagpur in February 1959 and sponsored by the Indian Paediatric Society.

It will be recalled that at the *First All-India Paediatric Conference* in Calcutta in 1950, a resolution was adopted urging the Government and the public to establish at least four Institutes of Child Health, one each in Calcutta, Bombay, Madras and Delhi. The Society appreciates that the policy advocated by it has been accepted by the Government of India, since it proposes to establish 4 or 5 such institutes during the Second Five Year Plan period. Although the progress made is far from adequate, achievements are quite remarkable, and the greatest achievement is that paediatrics has come to stay as a major discipline in medical education, and that paediatric services have been given a very high priority in the plans for social welfare during the First and Second Five Year Plan periods. It is a matter of satisfaction to all medical men, especially to paediatricians, that the policy to bring child welfare services to the remotest village has been accepted, and that active planning has been undertaken. Nevertheless, it is necessary to be vigilant, because it is only by sustained efforts, active co-operation, and careful planning that the difficult and gigantic problem of child welfare in India can be solved.

Paediatrics as a Speciality

What seems to be simple and obvious to the pediatrician appears to have caused a considerable amount of confusion in others. Many people have asked me why paeditrics should be considered a major discipline—because pediatrics differs from all other branches of medicine both in its concept and application and has far reaching implications for the welfare of the nation. First, it is not an organ specially dealing with anatomical and pathological variations of a particular organ like ophthalmology or midwifery. It has to deal with a growing child, who presents a changing pattern of physical, mental, and emotional growth at different age periods. The most fascinating feature of child-life is the extraordinary change from a mere parasite in intra-uterine existence to a living creature of the highest order from birth to adolescence. Paediatrics thus involves the study of dynamic physiology and its effects on health and disease.

The second characteristic is that a child cannot be studied divorced from his social set-up. The life of the child is not only affected by the factors of growth and development, but also by the education, intelligence, standard of living etc. of the people who rear him in the family. The family provides the child with food; gives him emotional stability, economic security, educational opportunity and intellectual trends. The status of the family, therefore, determines not only the standard of physical well-being of the child but also his character and personality development. Paediatrics is thus an integral part of social medicine and cannot be studied without an intimate knowledge of the social milieu. Every student of paediatrics must become familiar with the cultural and material situation of the people and of the country in which he is functioning. These two basic factors—a changing pattern of norms, and the social relationship—distinguish it from all other branches of medicine.

It is, therefore, not difficult to imagine why paediatric training and paediatric services have been given such importance all over the world. If a child is not cared for at the time when he should be, it can have devastating effects on the structure of the community. It is an unfortunate fact that today in India we are faced with a very serious problem of indiscipline, irresponsibility and disrespect for authority of any kind by children and adults. School and even pre-school children are following the agitational approach for every little thing by marching along the road with banners and placards instead of attending to the class-room lessons. University students are imitating with singular perfection the electioneering campaigns of political organisations in putting up posters and in creating slogans for election to the mock parliament of students' unions, and are not devoting their time seriously to the study of art and science in university halls which helps them in developing the right qualities of mind. One major reason for this disruption in the country can be traced back to the lack of proper care in early years and the bad example set by the people who are entrusted to look after them. A child must be helped to grow with human qualities under supervision by paediatricians who are expected to play their role as doctor and teacher during the formative years to make children healthy—physically, morally and otherwise.

The Problem

I am quite aware of the magnitude of the problem of child-welfare in our motherland, and I am sure everyone interested in paediatrics is equally alive to it. The problem is of such a nature and of such complex character that there is no parallel in the medical history of the world, except perhaps in China. India has a total population of 360 million, of which 150 million are children, and there is an addition of 15 million every year; 85 per cent of them live in villages and the majority of them are born into families with very low incomes, and perhaps, also, little education; morbidity and mortality are high; 44 per cent of the total deaths are amongst children under 5 years; and the important causes of death are respiratory infections, diarrhoeal diseases, and infectious diseases, especially tuberculosis.

It requires no intelligence to understand that the facilities to cover even 15 million newborn, not to speak of an overall organisation for 150 million, meant an enormous organisation involving millions of technical personnel, numerous institutions, a huge quantity of equip-

ment and the cost amounting to astronomical figures. There must be a realistic approach to planning on the basis of what we have and what we expect to have within the resources of the country in a reasonable time.

Let us examine what we have: For the last three decades scattered and unrelated organisations of child welfare founded by the State and private charitable agencies were operating, but only after Independence, an organised effort is being made to establish child welfare centres and about 3,500 child-welfare centres have been established. There are only about 200 to 300 paediatricians and 1,600 hospital beds for children in the whole country; facilities for supervising pre-school and school-children are very limited. Parents can hardly get advice for bringing up their children from trained personnel, and even elementary facilities of treatment are not available for the village child.

Realistic Approach

The facilities, therefore, are so meagre, that I feel embarrassed and diffident to utter platitudes and hold out hope for any remedy in the near future. Let us be honest to ourselves and execute a policy slowly and steadily which can perhaps bring results in half a century and forget about the period up to the next election or the next plan. Policy makers, administrators, and paediatricians and other technical persons should meet to work out a plan for paediatric training and services for the whole country which is capable of being executed within the resources of the country and in a reasonable time.

Let us consider the programme and begin in a modest way:

A. Training Programme:
   1. Establishment of training centres in 50 medical colleges of India, a department of paediatrics each with at least a 100 bed properly equipped hospital unit, 1 or 2 preventive paediatric centres and teaching and research facilities in charge of highly qualified paediatricians—with the rank of professor.
   2. Establishment of post-graduate institutions for teaching and research.
   3. Institution of paediatric training courses in all universities for (*a*) teachers and research workers, who will man the training centres and (*b*) for general practitioners, who would work in the peripheral centres, or go into private practice.

B. Service Programme:
   1. Establishment of children's hospital, convalescent homes and specialised institutions for the sick child in all States and in places where the need is great.
   2. Establishment of promotive and preventive centres in villages—or for groups of villages at the sub-divisional or union level.

There shall be a close relation between the training and service centres, so that the quality of service can be maintained. But no programme will be successful, if it is considered as an isolated item apart from the medical, social, economic, and political set-up of the country. Unless account is taken of these important factors we may be faced with an anomalous situation such as this. During the last few years, a huge cry has been raised that India needs doctors, and there is no denying this fact. But paradoxical though it may appear to be, even the three hundred paediatricians, mentioned above, could not be employed. During the last two years, 30 doctors have been trained in the Institute of Child Health, Calcutta, who took their diploma; 75 per cent of them have gone into private practice because there is no position available for them. During my recent visit to the West, I met young Indian doctors taking training in England, U.S.A. and elsewhere. I have also met Indian doctors who accepted jobs in Central and South America, the West Indies and elsewhere. Most of them are well qualified and appointed on a salary of Rs. 1,000/- to 1,500/- but they could not get jobs in India carrying a salary of Rs. 300/-. I am told about 1,500 Indian doctors are working in England and 500 others in U.S.A. Some of them, whom I have met, told me that they did not like to live in a foreign country and would like to return, if any position was available. The time has, therefore, come to work out plans so that we can absorb the already trained personnel in our child-welfare centres and hospitals and create further facilities, which we so badly need, and make a serious attempt to socialise medical services.

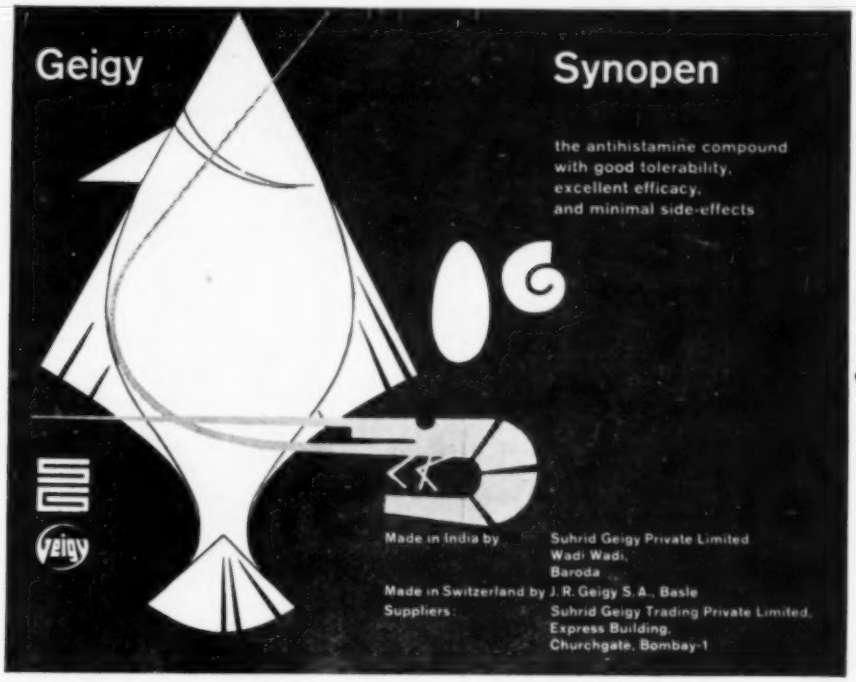
It should not also be lost sight of that successful planning of medical services presupposes a minimum standard of living, of sanitation, of water-supply, housing, etc. The establishment of the physical plant of hospitals and welfare centres alone does not necessarily assure adequate medical attention. Human factor—a quality man behind the machine is the most important element. No plan for paediatric service, and for that matter, medical services will be successful, unless notice is also taken of these factors namely, the economic, social, political, and medical situation of the people and of the country when the plan is executed.

Post-Graduate Education and Foreign Training

In our humble way it has been possible for us to found an "Institute of Child Health" in Calcutta. We have had the great honour to have the Prime Minister of India inaugurate our Institute just two years ago. It has a 70 bed hospital unit, O.P.D. and preventive centres, adequate laboratory facilities to offer high standard service, and to carry on training and research programmes. At the present moment we have 14 research scholars, and 10 post-graduate students taking training. During the last 3 years 60,000 children have been treated, and 500 healthy children supervised in our welfare centre.

It is staffed by a team of 15 experts in different branches of paediatrics. The total capital cost incurred amounted to 12 lacs of rupees, anid the recurrent cost is two lacs of rupees.

The Institute of Child Health will continue to welcome students and doctors from all parts of India, and every attempt is made to maintain the highest inter-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national standard. In its effort, it has been helped by the Government of India, State Government of West Bengal, Calcutta Corporation, University of Calcutta, the Rockefeller Foundation, and above all, by the people of Bengal. Our efforts will be amply rewarding, if we have been able to contribute our share even in a small measure towards the development of the paediatric training programme in our motherland.

We are of the opinion that our students must undergo post-graduate training of the highest standard in the soil of this country; and that only mature persons, who already have position, should proceed to foreign countries for a specific purpose, and continue the work in the same field when they return to India.

Hospital is an "Industry"

I have noticed with deepest concern the progressive deterioration of the standard of maintenance and of services in hospitals during recent years. The architectural beauty of some of them is contradicted by the ugliness of their maintenance and lack of equipment. Over-crowded indoor and outdoor departments, primitive laboratories, filthy lavatories, broken windows, and above all gross lack of discipline amongst the personnel, particularly of the service personnel, are not at all infrequent. I have visited many medical institutions of the world but I regret to be obliged to admit that our hospitals bear no comparison even with the outward cleanliness of others. One is apt to ask why this is so. Every administrator will bear me out, if I am permitted to say so, that it has become difficult because of the psychological attitude of the public and of the State towards hospitals. In an official communication the labour department of a State Government made the following statement regarding the status of a hospital. "The work of the Institution comes within the definition of 'Industry' under the Industrial Disputes Act."

Apparently we live in an interesting age. Any superintendent of a hospital or director of health services can be humiliated by the application of such absurd laws by the trade unions, if he attempts to maintain discipline amongst labourers to relieve the misery of the sick inmates. In the Institute of Child Health, Calcutta, *ayas* refused to carry out orders to clean the napkins of the babies, because, I was told, their union had told them that it was not their job. I have seen with my own eyes in England, U.S.A. and U.S.S.R., nursing sisters doing so; not to speak of nurses or nurses' aides. In a State hospital, a labourer suspected to be suffering from leprosy could not be transferred because of the threat of a strike by the menials.

A peculiar psychology has also obsessed men of position, city fathers, members of the legislature and others. They seem to think that no consideration will be shown or proper care taken of their protegés unless a letter is written to the authorities of the institution. Many of those who bring such letters demand special privileges and are not amenable to discipline. Medical men are expected to treat everyone with equal zeal and efficiency and not discriminate between one and the other patient. I would leave it to our leaders to consider whether the time has not come to stop such practices and rely on the integrity of the institutional head. If he cannot exercise his authority with discretion and justice, it is better to remove him, rather than order him to show special consideration to one or other group of people.

To add to this, sinister and insidious propaganda goes on in the press to belittle the dignity of the medical profession and to inflame the passion of the sick and of the so-called under-privileged. I read recently an astounding editorial in the *Hindusthan Standard* of Calcutta, stating that doctors were concerned only with their remuneration and that they play very little role in rendering medical service to the people. The sense of values has changed in such a manner that sometimes I wonder if we are still sober in our thoughts. I have yet to see another country, where a trade-union leader or a group of workers is allowed to bring about a strike in a hospital, or assault medical personnel. The Soviet Union is supposed to be a country of workers and this is what John Gunther wrote about the position of an intellectual such as a doctor:

"An intellectual in the Soviet Union is envied, not scorned, and has an honoured place in the community from the moment he gets out of the college . . . an assistant professor in Moscow is paid roughly three times what a skilled labour gets". *Inside Russia*, page 291.

Myth of Differences

A myth has been created and even tendentious articles published in the foreign medical press about the so-called differences amongst the paediatricians of India, because two professional organisations for the development of paediatrics are functioning. India is a country of vast distances, of diverse people, diverse religions, and diverse languages. Its cultural unity consists in finding unity amongst diversity. This applies also to medicine. If we look upon the development of an older discipline such as internal medicine, we find that different societies were functioning in Calcutta, Bombay and Madras as far back as 1840. At the present time also one annual conference is held by one group in one place, and by another in another place. Those of us who are working in the field of paediatrics find the growth of different societies very healthy—providing competition, which makes us more efficient and alert. I congratulate the younger organisation because it has proved its worth by publishing a good Journal, and by organising conferences. They feel that they gain better knowledge if they hold their conferences with other specialities such as cardiology, neurology, and internal medicine. We believe that in the present stage of paediatric development, we should not be drowned by others who have been operating for over a century; but that the goal of all paediatricians is to see that child health services are organised to elevate the health standard of the nation.

In conclusion, I would earnestly request you to pardon me, if I have been frank. It is not my intention to hurt anybody's feelings, nor to advise anybody. I have expressed my feelings in order to focus attention on the critical situation existing in the country, with

particular reference to services for children. Our children must grow as men of character with quality of mind.

India marches on. I have no doubt that the ancient people of this land will continue their onward march and again contribute their share to civilisation with a new consciousness. With earnest co-operation, and with human understanding of the deficiencies of every human being in every age, man has always tried to conquer disease and pestilence, to render succour to the suffering. The spirit of man lies in conquering human failings and in striving and seeking after knowledge, which makes life worth living. Let us take a vow to pursue our profession "with purity and with holiness" as enjoined by our great Master Hippocrates.

NOTES AND NEWS

Observance of World Health Day

On 7th April, 1948, the Constitution of the World Health Organisation officially came into force. Each anniversary is now observed as World Health Day and is used by national and local health authorities to interest people in health needs and to stimulate their co-operation in health action. A definite theme for the observance is selected every year in order to focus public attention on particular aspects of Health.

The theme chosen for the eleventh observance of World Health Day is "Mental Illness and Mental Health in the World of Today".

The Government of India is observing the Day on 7th April, 1959 and the W.H.O. has suggested that the Indian Medical Association and its branches also support the observance through functions held in co-operation with the local government authorities.

World Health Organisation Fellowships

The World Health Organisation is likely to offer some fellowships for post-graduate training in (i) Social and Preventive Medicine, (ii) Malaria Eradication, and (iii) Environmental Sanitation. The facilities are for 'practical' training as distinct from 'purely academic' training.

Applicants should be graduates in the particular subject and should have experience sufficient to enable them to take advantage of the training. Preference will be given to those who have exhausted the opportunities available in the subject in India.

The candidates should be below 50 years of age and employed under a State Government, local body or a non-governmental voluntary organisation. Only those honorary workers, in whose case a guarantee of regular whole-time employment from States is forthcoming, are eligible.

Applications should be submitted through the State Governments in all cases on the prescribed forms obtainable from Secretary to the Government of India, Ministry of Health, New Delhi. The last date for the receipt of application through the State Governments is April 6, 1959.

Reduction in Tuberculosis Deaths

A decrease of 50 per cent or more in the number of deaths from tuberculosis has taken place in many countries during the period from 1952 to 1957, according to a statistical report of the World Health Organisation.

This drop is mainly a result of the use of new drugs, such as INH and streptomycin, thanks to which tuberculosis needs no longer be a killing disease. Another factor is the intensive TB case-finding and vaccination campaigns in recent years, as a result of which fewer people contract tuberculosis.

Among the countries and territories covered by the report, the lowest tuberculosis death rate is now found in Iceland, where it dropped from 13·5 per 100,000 population in 1952 to 4·3 in 1957, with a rate of only 2·5 in 1955. The highest rate is in Hong Kong, where it dropped from 158·8 in 1952 to 102·6 in 1957.

1958, A Bad Year for Cholera

Last year was a bad year for cholera, according to a report issued in Geneva by the World Health Organisation, and the number of cases which occurred in Asia —93,000 (provisional figure)—was the highest recorded since 1953, when the disease struck 242,000 people. Epidemics occurred last year not only in India and Pakistan, but in Thailand and Nepal as well.

The worst epidemic was in the lower Ganges Valley, in *East* Pakistan, where 20 per cent of all cholera cases for the year were reported. Several districts in *India* were also severely hit, and there were no fewer than 4,895 cases, with 1,765 deaths, in Calcutta alone.

The World Medical Association

Dr. Louis H. Bauer, Secretary General of the World Medical Association, announced that the Association has made initial arrangements for providing its participants at the Second World Conference on Medical Education (Chicago, Illinois, August 30—September 4, 1959) and the XIIIth General Assembly of the World Medical Association (Montreal, Canada, September 7—12, 1959) with a special chartered transportation plane. Members of the national medical associations and their families are eligible to apply for reservations on the chartered flights. Additional information may be obtained from: The World Medical Association, 10 Columbus Circle, New York 19, New York.

International Congress on Occupational Health

The 13th International Congress on Occupational Health—first to be held in the Western Hemisphere—will meet in New York City, July 25 to 29, 1960.

Physicians, nurses, industrial hygienists and other delegates from more than forty countries will attend.

Theme of the New York meeting will be prevention, rather than cure. Programme participants from the many countries will report on their experiences, the findings of both clinical and laboratory research, and on methods for control of occupational health hazards. Plans already are under way to provide meeting faci-

lities, and for translation services, accommodations for the visitors, and other arrangements.

The Scientific Programme Committee invites submission of papers for presentation at the Congress. The Programme will be devoted to the discussion of the different aspects of Occupational Health.

Further details from Dr. C. K. Ramchandra, Parry & Co. Ltd., Ranipet, N.A. Dist., South India.

Asian and Australian Haematologists may Combine

Negotiations are taking place which are expected soon to link Australian haematologists with their colleagues in Asian countries in an Asian-Pacific association. The main aim of such a merger would be to increase the exchange of ideas in this field of medicine, which is concerned with the study of blood and the blood-forming tissues of the body. The negotiations started last year, when Dr. R. A. Hayes of the Alfred Hospital, Melbourne, returned to Australia from Japan. He had attended the first international congress of the Asiatic Society of Haematology. Dr. Hayes said, "An organisation such as this would not only assist the exchange of ideas on haematology, it would be a useful means also for extending human relations between doctors from different countries.

Dhubulia T.B. Centre

A sum of Rs. 1,12,500 has been sanctioned by the Government of India for the Dhubulia Aftercare and Rehabilitation T.B. Centre, in West Bengal. The construction work for the centre is in progress and is expected to be completed by the end of December 1959.

Imposition of Birth Tax

Shri D. P. Karmarkar, Minister of Health, said in the Rajya Sabha on February 23, 1959, that Government did not intend to implement the suggestion made by Dr. C. O. Karunakaran in his address at the meeting of the All-India Medical Conference held in Cuttack in December 1958, that a birth tax should be imposed to check the growth of population in the country.

The Minister added that the ultimate purpose of family planning was "health and happiness of the family". This object would obviously be defeated if further taxation by way of birth tax was imposed on the family. The financial condition of persons with large families was already unhappy and it was not desirable to impose further burden on them.

REVIEWS

Neuropathology—By J. G. Greenfield, M.D., F.R.C.P., LL.D., W. Blackwood, M.B., CH.B., F.R.C.S.E., M.R.C.P.E., W. H. McMenemey, M.A., D.M., F.R.C.P., A. Meyer, M.D. and R. M. Norman, M.D., M.R.C.P., D.P.M. Published 1958 by Edward Arnold (Publishers) Ltd., London; available in India from Orient Longmans Private Ltd., 17 Chittaranjan Avenue, Calcutta 13. Board bound with paper jacket, 7½"×10", 640 pages; price 105s.

The subject of neuropathology as a separate entity was founded at the end of the last and the beginning of the present century by many scientists of distinction. Those who follow the discipline appear to have been encouraged by seeing the return of a more organic conception of many disorders of behaviour. The pathology of the basal ganglia and brain stem has also been explored during the past fifty years, but physiological research has not yet clarified the relation between symptoms and lesions in that area of the brain. Since many of the classical monographs of neuropathology are little known and a few are available in the English language, more attention than usual has been given in this book to the history of the subject, and some sections are largely based on the original descriptions. The advent of the electron microscope and of cytochemical and enzyme stains have called for a complete review of the older cytology which was based on the optical microscope and traditional staining methods. These new explorations must start from a base of existing knowledge, and this volume amply provides provision for this. As the large subject of cerebral and spinal tumours is treated in a companion volume edited by Prof. Dorothy S. Russell, it is omitted from this book. This volume is a comprehensive work which covers the subject well.

Medical Research Council Memorandum No. 36.—The Determination of the ABO and Rh (D) Blood Groups for Transfusion. Her Majesty's Stationery Office, London. Pages 46. Price 3s. 6d. net.

This is a revised version of War Memorandum No. 9 published in 1943. Relevant aspects of recent advances on the subject have been incorporated to make the memorandum up-to-date. The section on Rh factor has been particularly expanded. Standard methods for blood grouping, cross matching, investigation of transfusion reactions have been described briefly but quite adequately. Due emphasis has been laid to indicate possible sources of error in the application and interpretation of the various tests. The treatise should be read by all interested in the subject.

Kinderärztliche Notfallfibel : Abwehr akuter Lebensbedrohung—Von. Prof. Dr. B. De Rudder, Frankfurt/M. 4., erganzte Auflage, 1958. VIII, 205 Seiten, 34 Abbildungen, 8°, Ganzleinen DM 18·60

A Primer of Paediatric Emergencies. Defence against Acute Threats to Life—By Prof. Dr. D. de Rudder, Frankfort/Main, 4th enlarged ed. (in German) VIII, 205 pp., 34 illustr., Georg Thieme, Stuttgart, 1958. MD 18·60.

The fact that since 1949, when this elegant little volume first appeared, four editions became necessary and Italian and Spanish translations were published, proves beyond doubt that it fulfils what it set out to do, to help saving lives in emergencies. Therefore, the contents are arranged according to the various life threatening conditions, such as congenital debility ; 17 kinds of acute asphyxias; collapse, various comas including those due to hypopotassaemia, hypochloraemia and the adrenogenital salt loss syndrome; 10 causes of toxicosis; reflex death. Then follow seizures; 6 kinds of haemorrhagic syndromes; vomiting; emergencies due

to jaundice; acute abdominal pain; acutely dangerous conditions due to inflammations of the skin; poisonings, where we missed kerosene poisoning; some interesting discussions of disguised emergency conditions such as Rh-incompatibility between mother and child, periarteritis umbilicalis, early infantile interstitial pneumonia, neglected nephritis, diabetic precoma, incipient tuberculous meningitis and others, are followed by a very useful section on techniques of resuscitation, where the necessity of attending to every detail is clearly demonstrated. An appendix contains an alphabetical summary of drugs required in emergencies and tables giving their dosage; the use of German proprietary names limits their applicability. This is a very useful guide for the most dramatic moments in the life of every general practitioner and paediatrician, when the fateful decision over life and death of a child is in his hands. On every page of this book one is impressed by the great experience and the clear judgment of the author who is not only an outstanding paediatrician but also well known for his work on the influence of meteorological conditions on health and disease.

Die beginnende Schizophrenie : Versuch einer Gestaltanalyse des Wahns—Von Prof. D. K. Conrad, Göttingen, 1958. VIII, 165 Seiten, 3 Abbildungen, Gr.-8°, kartoniert DM 19·80. (Sammlung psychiatrischer und neurologischer Einzeldarstellungen : Vorzugspreis für Abonnenten der Zeitschrift "Fortschritte der Neurologie, Psychiatrie and ihrer Grenzgebiete" DM 17·80).

The Incipient Schizophrenia. Attempt of a Gestalt—Analysis of this Psychosis—By Prof. Dr. K. Conrad, director, Univ.—Neurological Clinic, Goettingen (in German), VIII, 165 pp., 3 illustr., Georg Thieme, Stuttgart, 1958. DM 19·80.

This volume appears as part of a series of psychiatric and neurological monographs, edited by the author of the study under review, with W. Scheid and H. J. Weitbrecht, of which eight other titles have been published previously.

The author starts by pointing out that today psychiatry is facing a critical decision which of two diametrically opposed lines of approach to use towards the problem of schizophrenia : from outside, as the strict biologist does by enumerating a large number of unconnected signs and symptoms,—hoping for a somatic explanation from the side of genetics, brain pathology, biochemistry, endocrinology etc., or, on the contrary, from inside, as it were, using the methods of phenomenological anthropology, renouncing any attempt to develop psychopathology as a science. The author's solution proceeds on a third line, meant to avoid the disadvantages of either of the previous ones. He applies psychological analysis, which has nothing to do with psychoanalysis, starting where Jaspet left off; he advocates Gestalt-analysis instead of existential analysis. All the present contents of the patient's conscious mind are material for this kind of analytical work, while the previous life history and all the problems which occupied or troubled this individual in the past may be totally "bracketed out". It could be said, therefore, that Gestalt-analysis of the psychosis should precede the existential analysis of the psychotic patient. Detailed case histories and closely argued applications of these principles to the problems of incipient schizophrenia fill the pages of this slim volume. How far the author succeeds in solving the difficulties of present-day psychopathology only expert psychiatrists can decide and their judgment, probably, will vary according to the school to which they belong. But everybody interested in a courageous attempt of grappling with the intricacies of the diseased human mind will read it with great interest and feel benefited, provided the language is no barrier.

OBITUARIES

Dr. K. G. Gosavi

Dr. K. G. Gosavi, one of the founder members of the Miraj Branch of I.M.A. died of heart failure on 14-12-58 at the age of 62 years.

He was the Chief Medical Officer of the former Miraj State. He took keen interest in all the social activities of the town and donated liberally to various educational institutions. He was President of the Miraj Branch from 1954-1956 and President of Miraj Vidyarthi Sangh for 7 years. He used to attend and guide all the meetings of the local branch. Miraj has lost a noble citizen and the loss is very much felt by the public.

DR. K. G. GOSAVI

DR. D. P. GORDE

Dr. D. P. Gorde

Dr. D. P. Gorde, a member of the Miraj Branch died of heart failure on 19-12-58 at the age of 52 years. He served in the Wanless Hospital, Miraj as the chief E. N. T. surgeon for 12 years and was in private practice from 1942. He was honoured by the College of Physicians and Surgeons of Bombay by an award of its Fellowship. He was widely known for his skill in surgery, in the southern Maratha countries. He was called a 'Poor Man's Surgeon', for he was very charitably disposed towards them. He was the President of the Miraj City Municipality in 1949, President of I.M.A. local branch, 1949-53 and President of the Rotary Club. He made a study tour to U.S.A. in 1952. His death leaves a void in the medical profession.

SUPPLEMENT
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XXVIII PUNJAB PROVINCIAL MEDICAL CONFERENCE, AMRITSAR, 1958

The 28th Punjab Provincial Medical Conference was held in the Medical College, Amritsar on the 29th and 30th November, 1958. The inaugural session of the conference was held on the 29th forenoon in the library hall of the Medical College. The conference proceedings started with the National Anthem. There was a gathering of nearly 400 doctors from all over the States of the Punjab, Jammu and Kashmir. Captain Tulsi Dass, Chairman, Reception Committee, welcomed the delegates, the Chief Minister of the Punjab, and the distinguished guests. He said that the categorisation of the medical fraternity as a trade union is a great blot to the dignity and the honour of this great profession. He wondered that when the profession of law had been accorded an honourable exemption, why the humanitarian profession of medicine has been penalised. He asked for the early increase in the number of beds in various hospitals. He congratulated the Government for sponsoring a bill that the non-allopaths should not designate themselves as doctors.

Dr. Dass praised the work of free rural medical aid scheme started by the Amritsar I.M.A. He asked the Government to provide a mobile medical van suitably equipped and place it at the disposal of I.M.A. He suggested to the Government that special allowance should be given to the doctors who are willing to serve in the rural areas and 50 per cent of the seats in the P.C.M.S. should be reserved for these doctors.

Capt. Dr. Mahatma Singh, the president of the conference in his address said :

"To-day the medical men are passing through a very critical time and there are manifold attacks from their rivals, public, and even the State government. The I.M.A., the national organisation and a spokesman of the medical profession, which aims at the good of the community first and puts profession next, does not find its respective place at the government level. It is a pity that while the Government complains of limited resources and finances at its disposal, the services of the I.M.A. are not properly utilised. The I.M.A. must be consulted and respected where it is worth doing so. The five year plans, the community projects, development boards, the framing of regulations affecting the health and sanitation of the public, medical education, family planning, etc., could be enumerated where I.M.A. can valuably advise the government. I venture to assert that the state cannot possibly succeed in carrying out these plans without the co-operation and assistance of medical profession as a whole and the I.M.A. in particular.

Apart from treating patients, a doctor owes another duty to mankind in general; and there are numerous ways in which he can discharge it, such as educative propaganda through lectures, press and films; mass inoculations, honorary services in dispensaries and mobile hospitals; voluntary medical teams, etc. But the government on its part is also in duty bound to create suitable atmosphere in which a general medical practitioner can claim his healthy existence and feel proud in rendering such voluntary service to the state. The Legislative measures such as Sales Tax, Drugs Act and Shops and Commercial Establishment Act, etc., are a few of the examples, where maintaining of various registers, keeping of accounts, making regular entries preparing daily and periodical returns, inspection of accounts, drugs and medical preparations by inspectors, opening and closing of the clinics at fixed hours, etc., are nasty and irritating conditions in which a general practitioner cannot work at ease. The government should win the confidence and gratitude of this profession, which is so important to the whole nation, by relaxing the restrictions mentioned above.

Medical knowledge is advancing at a great speed. Unless every medical practitioner, especially in the rural areas, keeps in touch with uptodate medical and scientific knowledge, he is sure to be outdated and get rusty. Therefore refresher courses for medical practitioners should be organised as a regular feature in all the medical colleges. Furthermore, free and ample chances should be made available for licenciates, to have condensed M.B.B.S. courses.

Rural Medical Relief.

Vast majority of the population in our country resides in the villages and every one of us, whether a politician, a professional, or social worker, has in his mind the illiteracy, backwardness, insanitary living and absence of modern amenities and essentials of life, in the rural areas. The problem of the rural medical relief is a knotty one and has got to be solved realistically and with determination. There are insufficient dispensaries in rural areas and even those that exist this day, are without proper staff, as medical men are reluctant to go to those far flung areas. There is a scheme of compulsory posting of fresh medicos in rural dispensaries. Whether new or matured medical men, I am afraid they would not be attracted, unless the environmental conditions, in which they have got to work, are made attractive and suitable to them. Every one now agrees that such a personnel should be amply compensated for the lack of educational facilities to their children, and other amenities such as good houses, roads and other recreational facilities.

A general practitioner alone or collectively can also go to the rural areas and render medical aid wherever it is needed. It is a matter of great pride that the Amritsar branch has taken up the matter in its own hands and teams of specialists, etc., go to the rural areas and give free consultations and medical aid. The government should encourage such voluntary services, by arranging transport facilities, medical and surgical equipment and supply of milk and other amenities wherever these are required. Red Cross societies could also contribute by extending co-operation to such voluntary teams.

CAPT. DR. TULSI DASS
CHAIRMAN, RECEPTION COMMITTEE OF THE CONFERENCE

QUACKERY.

I am constrained to call quackery a social evil which has got deep roots and the more we talk and ask for the drastic measures to be taken against it, the more it flourishes. Today, nearly every Granthi of Gurdwara, Pandit of the Mandir, Teacher of a School, even opium addict and the diabetic patient is equipped with glass syringes and a few rusty hypodermic needles. To start with, he helps himself and his family; by and by within a couple of days, his reputation 'flourishes' and so the sphere of his practice widens. Such quacks are encouraged by the politicians who say that "unlimited number of patients await at their clinics while qualified men get few". It is true because qualified men practise medicine and not quackery; they tell the truth and give the patients right diagnosis, prognosis and treatment and do not exploit them. The quacks cannot diagnose the disease but they prescribe all sorts of medicine from quinine to broad spectrum antibiotics at a time and at last they succeed at times. Apart from the financial loss and waste of drugs which were not required at all, they shatter and interfere with the defensive mechanisms of the body by the misuse and overuse of antibiotics.

There is another very important point. These quacks do cure the disease at times, no matter how long they take and how they treat the patient. Modern science does not lay much stress on curative aspects but it mostly aims at preventive medical measures. It is through preventive medicine that every year millions of lives are being saved from diseases like cholera, smallpox, tuberculosis, and influenza, etc. These quacks are as ignorant of this side of the medical science as anybody else. If a case of cholera comes to them, their energies are directed towards the curative side and money making. Segregation of the patient, disinfection of the drinking water, proper disposal of human excreta, inoculations, etc., are the important factors to save the community from its further spread. But it is not their concern and they worry the least about it. Thus the nation incurs a heavy loss because of their ignorance.

Most of us are also to some extent responsible for their encouragement. Nearly every quack directly or indirectly has got links with medical men who are paid and consulted when the former's efforts fail. I have seen one surgical specialist operating upon a case of enlarged prostate, under the treatment of a quack and leaving the surgical case to his aftercare in a remote village. Such acts on our part are all unethical and we should always refrain from them.

MEDICAL ORGANISATION.

Apart from unrest amongst general practitioners, the doctors in service are not satisfied with their emoluments, grades, service rules, etc. They are, comparatively, much less paid than they deserve. The emoluments and allowances in the neighbouring countries such as Malaya, Burma, Iraq, Egypt are much higher and practice of a general practitioner is much more profitable than here in India. The pay scale here is same as was in 1920 and in some cases it was decreased in 1957. In Lahore, an Assistant Professor in the medical college got pay scale of Rs. 450-20-750 but here in our Punjab it has been reduced to 400-20-700. The pay of an Assistant Surgeon class II is much less in Himachal Pradesh than in the Punjab. Why this disparity and decrease in pay? The medical men, at the most, can rise to three highest posts, one D.H.S. and two Principals, whereas a P.C.S. officer can be promoted to I.A.S. and can rise to the rank of a Chief Secretary, Financial Commissioner or Chief Judge, if in judiciary. An S.D.O. in engineering department within 6 years can become an Executive Engineer, drawing Rs. 750/-. Very few of the doctors would be Civil Surgeons after 20 years' service, drawing Rs. 600-900/- at the most. Therefore, sooner or later the government has got to revise this step-motherly attitude towards this profession.

A medical man has got to work during emergency for 24 hours continuously, in addition to his routine duties. He can neither enjoy the public and gazetted holidays, half holidays and Sundays, nor can he avail himself of his earned or privilege leave, as many a time he cannot be spared for want of relief or shortage of personnel. Even a labourer is entitled to charge extra from his employer for the extra labour put in, but it is a great pity that a medical man is not paid for the overtime.

PROBLEMS OF MEDICAL MEN.

These are numerous but I will make only passing remarks about a few of these. As for the Licentiates, they should be given the chance to improve their status by taking up M.B.B.S. Condensed Courses, and 'manufacturing' of more Licentiates be stopped forthwith. To complete the shortage of doctors, more seats could be allotted to the existing medical colleges.

The government has restricted the use and stocking of many spirituous preparations which a general practitioner has got to dispense to his patients. No practitioner can stock more than one pound of such a spirituous preparation and even for that he has got to keep full accounts of its use. The result of this restriction is that most of these preparations are not available and the general practitioner has to put off their use.

Morphine and allied preparations, particularly pethidine which is very essential for gynaecological cases and for general practice, are not easily available. Moreover, the draft of Punjab Manufactured Drug Rules 1958, as published in the Punjab Government Gazette on August 8, 1958 is not practicable at all, as these rules require the "actual direct administration of drugs by or in the presence of a medical practitioner". The Drug Rules ought to be amended in consultation with I.M.A. so that these may be practicable. Most of the opium eaters have become addicts to the use of morphine and atropine injections. There are many addicts who are having 10 grains of morphine daily by injec-

tion. The menace is on its increase and the Excise Taxation Department has utterly failed to check this. There are many unscrupulous firms which manufacture morphine and atropine, label them as quinine ampoules and sell them in market in lots. A regular check on such firms be kept and apart from legal steps, these firms be black-listed and their licences cancelled.

A certificate given by a general practitioner, is not generally honoured by many departments and sometimes these certificates are required to be countersigned by Assistant Surgeons or Civil Surgeons. Many instances can be quoted where medico-legal certificates issued by a general medical practitioner, are refused by the Police Department. This should be stopped forthwith. On our part we would be ethical and honest in issuing such certificates only to the right and deserving cases.

INDIAN MEDICAL DEGREES ACT (AMENDMENT) BILL, 1958.

This bill was sponsored by the Health Minister, Punjab, and published for public opinion to be put before the Legislature during September 1958 session for approval. This bill was most timely, opportune and in accordance with the wishes of the Medical Profession. This bill is not against any individual, society or system of medicine. It does not deprive any individual or class, of the right to practise or prescribe any drug nor does it claim at causing unemployment among those who practise medicine. It only seeks that unauthorised persons should not be allowed to use the word "Doctor, Physician and Surgeon", etc. with their names.

SHOP AND COMMERCIAL ESTABLISHMENT ACT.

The I.M.A. has shown its resentment against this act and challenged its validity in the High Court. Since the matter is pending before the Punjab High Court, it being sub-judice, I would refrain from commenting on its merits and demerits. The I.M.A. would see what line of action should be taken after the case is decided by the High Court. Our earnest desire is to compromise with the government and if the medical profession, like the lawyers, is exempted from the provisions of this act, we are prepared to withdraw the case.

PRIVATE PRACTICE.

For two or three years it has been a much debated question. Much has been said in the past and the matter had been fairly pursued and yet no definite decision has been arrived at. Private practice should be stopped the next day when the teachers in colleges, specialists and other government medical men are adequately paid and only then we can expect marked improvement in teaching and research work. The government is requested to take steps to revise the pay scales *as demanded by the I.M.A. (Centre)* through the memorandum submitted to the Pay Commission, at an early date and bring their pay scale at par with the highest ranks of the other administrative services. These recommendations are detailed and commented upon in the editorial of the journal of the Indian Medical Association of 1st February, 1958 under the head "Pay, Status and Remuneration of Medical men."

ADULTERATION.

No article of any kind whether eatable, drinkable, cosmetic or any essential of life is found unadulterated to-day. I am compelled to say in the presence of this solemn gathering that one cannot get even pure white arsenic to commit suicide. The adulteration is the worst type of social evil and it is causing tremendous harm to the nation by lowering the health standards of the masses. More effective step should be taken to do away with this evil.

CAPT. DR. MAHATMA SINGH
PRESIDENT OF THE CONFERENCE

ABOUT OURSELVES.

In these days of socialistic pattern of society, no medical man, however highly placed in service or profession, can afford to remain aloof and isolated. He has got to come under a common banner and should stand united on a common platform. Our I.M.A. has been in existence for the last 28 years and it has justified itself by tackling important issues and solving problems, facing the profession. We should all pool our knowledge, share our common problem, voice with one accord our appreciation or criticism of the government policies, get together and make this organisation more full of life, so that our voice is heard and honoured in the medical affairs, in the development and betterment of our nation. This can only be achieved if we join the I.M.A. in large numbers. It is painful to note that out of 4,800 Registered Medical Practitioners, there are only 800 members and 35 branches of I.M.A. all over the Punjab, which means that about 16 per cent medical men are its members. There are about 150, big or small, cities in the Punjab and I find no reason why there should not be same number of branches. In this connection I want to draw the kind attention of the Civil Surgeons and the District Medical Officers of Health, who can do the greatest service to the I.M.A. They can easily canvas and persuade medical men under their command to join I.M.A. In Great Britain, no doctor is given any appointment unless he becomes a member of the B.M.A. My first and foremost aim during tenure of my office, would be to raise the number of its membership and its branches, thereby strengthening the I.M.A. The time would come when we shall have a united voice and others will feel its strength."

Dr. Parkash Kaur, Deputy Minister, Health and Social Welfare, then read out her inspiring address. She said that she was proud of the medical profession. The cream of the youth of the country seeks to join the medical profession and the stiffness of the medical studies and the examination bring to surface the best in the selected best of the nation. She assured the delegates that the Government is fully aware of the

problems facing the medical profession. As a first step the Punjab Government is thinking of reviving the State Health Council and shall be glad to receive suggestions from the profession regarding health policies and health re-organisation of the State.

S. Partap Singh Kairon, the Chief Minister, Punjab, addressed the delegates. He said Punjab needed more and more doctors and engineers and for this purpose the Punjab Government has decided to set apart Rs. 2 lakhs for giving loans to deserving students for prosecuting their studies in these two branches of science. The Chief Minister appreciated the action of the Amritsar Medical Association in sending specialists to villages once a week to serve the people at their door and urged them to repeat it daily and he promised to supply them with an equipped mobile unit. He urged the doctors in other cities to follow this example.

Referring to the stoppage of private practice he asserted "I am opposed to ban on private practice by doctors in service. The benefit of such specialists should accrue to people and their knowledge and experience should not be allowed to rust, as I believe a doctor cannot be up-to-date in his profession without practice."

Besides the usual industrial exhibition, a health exhibition depicting the role of preventive and social medicine was well organised.

Scientific session followed and there was symposium on Diabetes mellitus which proved very informative.

The following resolutions were passed at the Conference :

1. In view of the fact that potent yet dangerous drugs in schedule 'H' of the Drugs Act are being freely used by unqualified persons and these drugs are available to the public even without the prescription of Registered Medical Practitioners, this conference urges upon the Government to see that the Drugs Act, 1940 is strictly and effectively enforced in the State.

2. Whereas no admission to the condensed M.B.B.S. course has taken place for the last two years in the Amritsar Medical College, this conference strongly urges upon the Punjab Government to see that as long as licenciates are coming forward to avail of this opportunity the admission to the above course be continued.

3. Now that the seats have been reserved for political sufferers and students from backward areas in the Government Medical Colleges of the State, this conference urges upon the Government that at least 5 seats in each Government Medical College in the State be reserved for the children of the doctors qualified in the modern scientific system of medicine.

4. Resolved that this conference draws the attention of the Drugs Controller, Excise Authorities and Narcotic Commissioner (Simla) to the difficulty the profession is experiencing in getting pethidine for emergency purposes from the Licensed Chemists. This drug is almost always short on account of poor and irregular supplies from the manufacturers in Calcutta, Bombay, Madras and Delhi. It is estimated that the annual requirement of Punjab will be about 400,000 ampoules of 2 c.c. of 100 mg. This conference urges upon the authorities that this quantity be reserved for Punjab Licensees from the manufacturers of pethidine in some neighbouring province like Delhi.

5. This conference strongly urges upon the Employees State Insurance Corporation to extend the E.S.I. scheme to other places where it has not so far been implemented under the Panel System.

6. As dispensing of prescriptions by medical men for their own patients is not a process of manufacture, this conference urges upon the government to exempt the medical practitioners (dispensing their own prescriptions for their own patients) from the levy of Sales Tax.

7. This conference requests the government to give adequate representation to the I.M.A. which can play a vital part in the social welfare, sanitation and health education of the masses on the Development Advisory Committee of Local Bodies. This would help in ventilating the grievances of the general public readily available to them and also make available the expert advice.

8. This conference protests against the unjust and arbitrary appointments of Medical Examiners for the Life Insurance Corporation of India and urges upon the Corporation to remove all discrimination and allow all the Registered Medical Practitioners of Scientific system of Medicine to become approved Medical Examiners with the Corporation.

9. This conference appreciates the draft of the Indian Medical Degrees (Amendment) Bill 1953 which aims at preventing unauthorised persons from assuming the title akin to 'Doctor', Medical Practitioner, etc.; and putting a stop to the exploitation of unsuspecting, poor and ignorant public by those who pose themselves as highly qualified persons in medicine and further urges upon the government for its early enactment.

10. This conference urges upon the government to have one uniform basic pay for the Assistant Demonstrators, Assistant Registrars and Assistant Surgeons (Non-Gazetted) employed by the State and possessing equal qualifications.

11. This conference urges upon the government to extend the same facilities to qualified medical practitioners as enjoyed by Civil Surgeon (Simla) on jeepable roads of the city.

12. Resolved that the resolution passed by the I.M.A. and All-India Medical Licentiates Association held at Bombay in 1947 to amalgamate the two associations be implemented and urges upon the Indian Medical Association (Central) to pursue the matter vigorously.

13. In view of the frequent use of the Sulpha Drugs and Antibiotics in the dispensaries of Registered Medical Practitioners the conference feels that a profit of 66 per cent on the gross sale of prescriptions for income tax purposes is exhorbitant and further proposes that it should not be more than 25 per cent.

BRANCH NOTES

AKOLA BRANCH—The Refreshers' Course lectures took place on the 24th and 25th January 1959. One hundred and twenty-five doctors were present. The following specialists of Bombay participated in it. Dr. R. N. Cooper, spoke on Diseases of the Anal Canal and Rectum; Dr. N. M. Purandare on Pathology and the General Practitioner; Dr. V. N. Shirodkar on Chronic Pelvic Pains in Women; Dr. Minochar B. Mody on Therapy in Cardiology; Dr. B. N. Purandare on Menstrual Irregularities and their Management; Dr. B. B. Gaitonde on Antibiotics; Dr. E. J. Borges on Oropharyngeal Cancers; Dr. A. K. Talwalkar on Common Fractures in General Practice; Dr. T. H. Tulpule on Cardiac Emergencies in General Practice; Dr. D. M. Deshmukh on Control of Tuberculosis; Dr. P. M. Udani on Cirrhosis of Liver in Children.

BERHAMPORE BRANCH—A meeting was held on 24-1-59. The attention of the Municipal authorities was drawn to the prevalence of infective hepatitis in the town. It was suggested that to combat the disease, improvement of sanitation, food control and improvement of protected water supply should be made. Dr. S. N. Gantayat spoke on Emergencies in Ophthalmic Practice in General and demonstrated a case of retinoblastoma.

SOUTH ARCOT BRANCH—The monthly meeting of the branch was held on 24-1-59. Dr. P. M. Palani of General Hospital, Madras, gave a talk on Modern Trends in Medicine.

TIRUCHY BRANCH—A meeting was held on 29-12-58. Dr. G. Viswanathan presided. Twenty five members were present. Dr. V. Balagopala Raju read a paper on Drug Therapy in Paediatrics.

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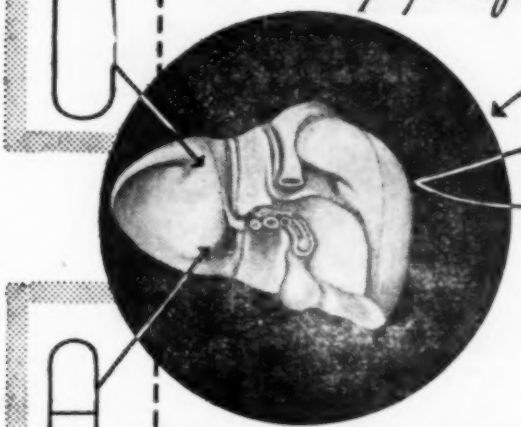

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